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FATS AND OILS Situation

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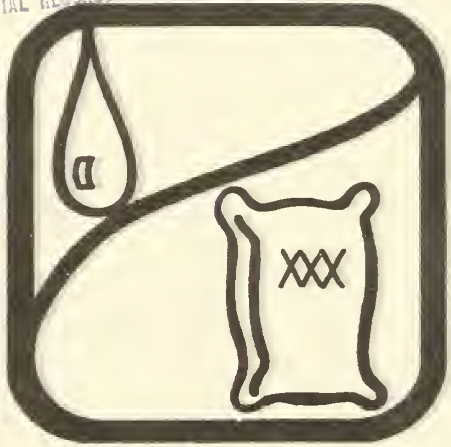

ECONOMIC RESEARCH SERVICE U. S. DEPARTMENT OF AGRICULTURE

Table 1.--U.S. Fats and Oils Situation at a Glance

Item	Unit	Marketing year total or average		1969		1970			
		1967/68	1968/69	April	May	February	March	April	May
SOYBEANS (Year beg. Sept.)									
U.S. average price received by farmers	$ bu.	2.49	2.43	2.51	2.56	2.40	2.42	2.48	2.52
U.S. support price	$ bu.	2.50	2.50	2.50	2.50	2.25	2.25	2.25	2.25
Price, No. 1 yellow, Illinois points	$ bu.	2.61	2.54	2.60	2.64	2.46	2.47	2.58	2.65
Price, No. 2 yellow, f.o.b., Gulf	$ bu.	2.79	2.72	2.79	2.78	2.71	2.74	2.78	2.85
Price, No. 2 yellow, f.o.b., Baltimore	$ bu.	2.71	2.66	---	---	2.71	2.77	2.79	2.85
Receipts at mills	Mil. bu.	588.5	609.7	35.6	39.4	62.4	52.7	50.9	41.3
Crushings	Mil. bu.	576.4	605.9	50.4	54.5	58.8	62.9	62.5	67.4
Oil yield per bushel crushed	Lb.	10.57	10.61	10.66	10.70	10.65	10.68	10.77	10.74
Meal yield per bushel crushed	Lb.	47.71	47.43	47.49	47.18	47.20	47.38	47.41	47.42
Stocks at mills, end of month	Mil. bu.	24.4	28.2	85.2	70.1	145.3	135.2	123.6	97.5
Exports	Mil. bu.	266.6	286.8	34.3	23.8	31.6	39.2	41.2	36.4
SOYBEAN OIL (Year beg. Oct.)									
Production	Mil. lb.	6,032.4	6,530.8	537.6	582.4	626.5	671.3	672.3	723.5
Domestic disappearance	Mil. lb.	5,095.6	5,756.3	447.7	496.8	558.6	503.4	514.9	N.A.
Exports	Mil. lb.	962.8	869.6	102.1	56.0	57.6	163.9	81.9	92.4
Stocks, end of month	Mil. lb.	539.9	415.4	595.5	623.5	558.6	560.7	633.6	N.A.
Price, crude, Decatur	¢ lb.	8.4	8.4	8.4	8.4	11.5	12.2	12.2	11.3
SOYBEAN MEAL (Year beg. Oct.)									
Production	Thou. ton	13,659.9	14,580.7	1,197.6	1,284.5	1,388.9	1,489.4	1,481.1	1,597.3
Domestic disappearance	Thou. ton	10,692.6	11,428.5	781.1	1,054.7	1,069.3	1,177.5	1,080.0	1,210.5
Exports	Thou. ton	2,899.4	3,084.8	412.9	209.1	287.0	310.5	385.9	304.9
Stocks at mills, end of month	Thou. ton	145.1	156.8	181.3	193.6	154.3	149.8	156.9	228.8
Price, 44% protein, bulk, Decatur	$ ton	76.90	74.10	73.30	76.10	85.25	71.80	74.60	71.20
Price, 49-50% protein, bulk, Decatur	$ ton	84.30	82.50	81.30	84.90	95.60	79.60	83.10	78.90
COTTONSEED (Year beg. Aug.)									
U.S. average price received by farmers	$ ton	55.20	50.50	---	---	47.00	47.10	---	---
U.S. support price, basis grade	$ ton	48.00	48.00	48.00	48.00	37.00	37.00	37.00	37.00
Receipts at mills	Thou. ton	2,961.1	4,461.8	60.9	69.2	58.9	41.1	12.9	37.1
Crushings	Thou. ton	3,107.4	4,363.3	384.9	336.5	452.9	422.1	308.0	223.1
Stocks at mills, end of month	Thou. ton	60.8	159.3	767.6	500.3	1,174.5	793.5	498.4	312.4
COTTONSEED OIL (Year beg. Aug.)									
Production	Mil. lb.	1,036.4	1,424.6	127.3	112.4	151.3	140.2	102.8	73.8
Domestic disappearance	Mil. lb.	1,129.3	1,016.9	81.5	93.9	76.5	126.7	104.8	N.A.
Exports	Mil. lb.	29.7	131.9	14.9	12.8	52.2	56.2	24.0	62.1
Stocks, end of month	Mil. lb.	158.3	439.7	460.8	466.2	394.0	351.3	325.2	N.A.
Price, crude, Valley	¢ lb.	12.7	11.6	11.12	11.35	11.88	13.06	13.95	14.28
COMMERCIAL LARD (Year beg. Oct.)									
Production	Mil. lb.	2,036.0	1,941.6	164.0	152.0	129.6	148.9	161.4	139.0
Domestic disappearance	Mil. lb.	1,803.0	1,698.7	144.5	123.1	88.0	105.6	135.4	N.A.
Exports	Mil. lb.	182.7	222.6	10.7	39.9	38.1	37.3	12.9	29.9
Shipments to U.S. Territories	Mil. lb.	62.9	58.6	8.0	2.0	6.8	.5	7.5	N.A.
Stocks, end of month	Mil. lb.	94.1	55.8	93.2	80.3	61.6	67.1	72.6	N.A.
Price, loose, tanks, Chicago	¢ lb.	6.2	8.4	8.6	8.4	11.7	13.6	11.8	11.0
CREAMERY BUTTER (Year beg. Oct.)									
Production	Mil. lb.	1,174.0	1,132.1	109.6	116.1	93.8	106.5	111.2	117.6
Domestic disappearance	Mil. lb.	1,160.7	1,138.9	95.1	77.8	89.9	95.8	88.4	83.9
Stocks, end of month, total	Mil. lb.	196.5	155.3	134.5	162.6	81.3	91.6	114.3	148.5
Stocks, end of month, CCC	Mil. lb.	167.5	121.4	105.8	131.1	53.1	63.6	75.6	104.5
Price, 92-score, Chicago	¢ lb.	66.7	67.5	67.6	67.6	67.6	68.0	69.8	69.8
FLAXSEED (Year beg. July)									
U.S. average price received by farmers	$ bu.	2.95	2.81	2.87	2.79	2.62	2.64	2.66	2.50
U.S. support price, farm basis	$ bu.	2.90	2.90	2.90	2.90	2.75	2.75	2.75	2.75
Price, No. 1, Minneapolis	$ bu.	3.20	3.09	3.16	3.15	2.90	2.92	2.97	2.97
Receipts at mills	Thou. bu.	15,418	14,338	663	585	627	725	650	1,260
Crushings	Thou. bu.	15,918	14,400	1,007	1,071	1,196	1,054	1,282	1,329
Exports	Thou. bu.	5,044	9,735	321	1,352	1	4	1	2.9
Stocks at mills, end of month	Thou. bu.	1,307	1,245	1,538	1,052	4,266	3,937	3,305	3,235
LINSEED OIL (Year beg. July)									
Production	Mil. lb.	331.0	299.5	20.8	22.0	24.2	21.4	27.1	26.8
Domestic disappearance	Mil. lb.	273.4	291.9	25.6	21.0	20.4	20.5	23.1	N.A.
Exports	Mil. lb.	52.3	77.0	2.8	5.8	.2	3.1	.2	6.5
Stocks, end of month	Mil. lb.	200.9	131.4	156.7	151.9	132.6	130.4	134.2	N.A.
Price, raw, Minneapolis	¢ lb.	13.1	12.1	11.9	11.9	11.0	11.0	11.0	12.2
INEDIBLE TALLOW & GREASE (Year beg. Oct.)									
Production	Mil. lb.	4,751.0	4,601.0	386.2	372.3	378.4	392.0	401.1	N.A.
Domestic disappearance	Mil. lb.	2,577.3	2,669.9	249.8	199.0	232.0	217.1	221.0	N.A.
Exports	Mil. lb.	2,210.9	2,007.3	220.0	202.8	133.7	235.3	182.5	199.2
Stocks, end of month	Mil. lb.	376.9	303.6	335.9	306.4	429.9	370.0	368.2	N.A.
Price, bleachable fancy, Chicago	¢ lb.	4.9	6.2	6.3	6.4	6.9	7.7	8.4	8.6
COCONUT OIL (Calendar year's 1968 and 1969)									
Production	Mil. lb.	392.1	386.4	30.5	29.3	26.2	14.2	19.1	N.A.
Imports	Mil. lb.	441.8	427.5	19.2	34.2	49.4	30.3	17.5	51.7
Domestic disappearance	Mil. lb.	808.6	833.2	77.7	63.3	136.2	44.5	52.5	N.A.
Stocks, end of month	Mil. lb.	87.4	59.4	155.6	153.1	139.5	138.3	121.9	N.A.
Price, crude, Pacific Coast	¢ lb.	13.5	16.7	12.9	12.6	16.2	16.4	16.7	16.4
PALM OIL (Calendar year's 1968 and 1969)									
Imports	Mil. lb.	103.3	159.6	18.0	6.7	12.1	2.9	8.4	.2
Domestic disappearance	Mil. lb.	91.3	152.4	10.0	21.2	12.1	8.6	9.1	N.A.
Stocks, end of month	Mil. lb.	28.5	35.7	40.1	25.6	29.4	23.7	23.0	N.A.
Price, Congo, tanks, New York	¢ lb.	12.6	12.0	11.2	11.2	11.2	12.6	13.2	14.0
PEANUTS (Year beg. Aug.)									
U.S. average price received by farmers	¢ lb.	11.4	11.9	---	---	12.1	12.2	---	---
U.S. support price - Farmers' stock basis	¢ lb.	11.35	12.01	12.01	12.01	12.38	12.38	12.38	12.38
Millings, all types, Farmers' stock basis	Mil. lb.	2,259.0	2,275.0	155.0	117.7	241.3	194.4	153.6	117.0
Production of shelled edibles	Mil. lb.	1,272.7	1,252.0	81.3	58.3	134.3	102.9	77.0	58.7
Total edible uses - shelled basis	Mil. lb.	1,002.1	1,031.7	86.6	84.4	84.7	89.3	86.9	78.3
Crushings - shelled basis	Mil. lb.	484.0	491.4	46.9	49.2	47.6	56.9	54.9	42.0
Commercial stocks, end of month - FS	Mil. lb.	353.0	356.7	889.9	684.3	1,367.7	1,115.2	860.5	653.6
CCC stocks, end of month - FS	Mil. lb.	---	---	21.9	---	122.6	44.8	---	---
PEANUT OIL (Year beg. Aug.)									
Production	Mil. lb.	199.2	205.2	19.6	20.5	20.0	23.5	22.6	17.5
Domestic disappearance	Mil. lb.	206.7	180.3	12.9	16.3	17.2	8.7	15.9	N.A.
Exports	Mil. lb.	5.7	25.6	4.3	3.0	4.0	13.8	.3	N.A.
Stocks, end of month	Mil. lb.	34.5	33.7	39.1	40.3	18.6	19.7	26.0	N.A.
Price, crude, Southeast mills	¢ lb.	12.6	13.2	13.2	13.6	15.5	15.1	15.5	16.1

FATS AND OILS SITUATION

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SPECIAL ARTICLE

STRUCTURAL CHANGES IN THE SOYBEAN INDUSTRY 16

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Approved by
The Outlook and Situation Board
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SUMMARY

Soybean usage continues at a record pace and for the 1969/70 crop year likely will rise a fourth from last season to about 1.2 billion bushels. This volume, nearly 8% larger than last fall's crop, reduces prospective carryover September 1 to approximately 240 million bushels.

The domestic crush through May totaled 549 million bushels, one-fifth ahead of the 1968/69 rate, reflecting continuing strong demand for soybean oil and meal and the most favorable processing margins in 25 years. With mills running at a brisk pace this summer, the whole season's crush will reach around 725 million bushels compared with 606 million in 1968/69. For the oil and meal marketing year ending September 30, 1970, the crush will total about 735 million bushels.

Soybeans inspected for export from last September through June 19 totaled 355 million bushels, up about two-fifths from the same period a year ago. The weekly rate so far this year has averaged a record 8½ million bushels compared with 6 million a year earlier. Inspections this summer should surpass the 3½ million-bushel weekly rate of last season. This points to a new high of around 415 million bushels exported for 1969/70 compared with 287 million a year earlier. Expanding foreign demand reflects substantial growth in poultry and livestock production abroad, and reduced world supplies of competitive fish, sunflower, and peanut oils and meal.

Soybean products are also moving to markets in record volume this year. During October-April, domestic disappearance of soybean oil and soybean meal jumped 14% and 16%, respectively, and exports of each product rose more than a third.

Farmers' prices for soybeans increased from a low of $2.23 per bushel last October to $2.52 in May, averaging about 12¢ over the U.S. support rate of $2.25. Prices rose further in June and during the

summer will continue well above support levels. CCC has sold approximately 150 million bushels of soybeans so far this marketing year, including about 55 million for delivery in September at prices that have recently moved above announced minimum with the rising market.

Production of competitive cottonseed oil and lard is somewhat lower this year than in 1968/69 while exports of each are up sharply. This has boosted domestic demand for soybean oil.

Cottonseed oil exports during October-May reached 395 million pounds compared with only 99 million in the same 1968/69 period. Increased exports this season are due to the CCC sales of the oil acquired under the 1968 price support program. Exports for the entire season probably will reach 450 million pounds or more, compared with 139 million in 1968/69.

Lard exports through May totaled 228 million pounds compared with 151 million in 1968/69. About two-thirds of this year's volume is moving to the United Kingdom under USDA's export payment program of 1¢ per pound. Total lard exports for 1969/70 probably will approach 400 million pounds, up sharply from last year's 223 million and the largest since 1963.

SITUATION AND OUTLOOK

SOYBEANS

Soybean Usage Exceeding 1969 Crop

U.S. soybean supplies began the current marketing year at a record level, more than a tenth above the previous year. However, demand has expanded sharply. Total usage this season is rising by a fourth, exceeding last fall's crop by nearly 8% and pointing to a reduced carryover on September 1.

Soybeans

Item	1968/69	1969/70 1/	Change	
	Mil. bu.	Mil. bu.	Mil. bu.	Pct.
Stocks, Sept 1	166	324	158	+95
Production	1,103	1,117	14	+ 1
Total supply	1,269	1,441	172	+13.5
Crushings	606	725	119	+20
Exports	287	415	128	+45
Total disposition 2/	945	1,201	256	+27
Ending stocks, Aug. 31	324	240	-84	-26

1/ Preliminary. 2/ Includes seed, feed, and residual.

Many factors have helped trigger the unprecedented demand for soybeans this year, but a few stand out:

(1) Reduction in the U.S. support rate from $2.50 per bushel (No. 2 grade) for 1968-crop soybeans to $2.25 (No. 1) for the 1969 crop. This action (announced by USDA in March 1969) set the stage for later market expansion as the trade (both here and abroad) sharply reduced their inventories of soybeans and products during the summer of 1969.

(2) Reduced world supplies of competitive sunflower, fish and peanut oils as well as fish and peanut meals and a strengthening in their prices.

(3) Continued expansion in livestock and poultry production in Europe and Japan with increased demand for protein meals for feed and expanding vegetable oil consumption.

(4) Reduced U.S. output of competitive cottonseed, lard, butter, and peanut oil. And with exports of cottonseed oil and lard sharply higher this year than last, the domestic demand for soybean oil has been boosted even more. Soybean oil and meal are not only filling the vacuum created by reduced supplies of competing domestic commodities but are providing an increase in per capita use of fats and oils and in high-protein feeding per animal.

(5) As a result, processing margins have been attractive. Slightly lower soybean prices and higher oil and meal prices resulted in the highest crushing margin since the end of World War II. This encouraged the processing industry to operate at over 90% of estimated capacity--the highest rate of record.

Crush Up 20%; Headed for New Record

Soybean crushings during September-May 1969/70 totaled 549 million bushels compared with 455 million a year ago. The crush hit a new monthly high of over 67 million bushels in May. The rate of crush will likely slow seasonally this summer but remain well above year-earlier levels. For all of 1969/70, the crush probably will total around 725 million bushels, an increase of some 20% over last year and the sharpest annual increase on record.

Soybean crushings

Month	1968/69			1969/70	
	Actual	Cumulative	% of total	Actual	Cumulative
	Mil. bu.	Mil. bu.	Pct.	Mil. bu.	Mil. bu.
Sept.	38.2	38.2	6.3	47.5	47.5
Oct.	54.7	92.9	15.3	61.8	109.4
Nov.	55.6	148.5	24.5	62.0	171.4
Dec.	52.2	200.7	33.1	63.1	234.5
Jan.	49.9	250.6	41.4	62.9	297.4
Feb.	45.0	295.6	48.8	58.8	356.2
Mar.	54.6	350.2	57.8	62.9	419.1
Apr.	50.4	400.6	66.1	62.4	481.6
May	54.5	455.0	75.1	67.4	549.0
June	50.6	505.6	83.4	(63)	
July	52.1	557.7	92.0		
Aug.	48.2	605.9	100.0		
Total	605.9			725 est.	

Record crushings this year reflect continuing strong demand for soybean oil and meal, higher prices, and favorable processing margins. Based on spot prices for soybeans, oil and meal at Decatur, the margin during September-May averaged 52¢ per bushel compared with 11¢ a year ago. The highest average processing margin for any season on record was 54¢ per bushel in 1946.

Export Inspections Up Over 40%

Soybeans inspected for export from September 1, 1969, through June 26 totaled

364 million bushels compared with 256 million during the same period of 1968/69. The average weekly rate so far this year has been a record 8½ million bushels compared with 6 million a year ago. Inspections this summer are expected to average well above the 3½ million-bushel weekly rate of last season. Thus, soybean exports for the entire 1969/70 season are headed for a new record of around 415 million bushels compared with 287 million the previous year. This is an increase of nearly 45%, the sharpest on record.

Soybean exports

Month	1968/69			1969/70	
	Actual	Cumulative	% of total	Actual	Cumulative
	Mil. bu.	Mil. bu.	Pct.	Mil. bu.	Mil. bu.
Sept.	13.9	13.9	4.8	13.3	13.3
Oct.	32.8	46.7	16.3	52.5	65.8
Nov.	50.0	96.7	33.7	53.7	119.5
Dec.	38.5	135.2	47.1	39.9	159.4
Jan.	1.2] Dock	[136.4	47.6	28.7	188.1
Feb.	11.4] strike	[147.8	51.5	31.7	219.8
Mar.	36.6	184.4	64.3	39.2	259.0
Apr.	34.3	218.7	76.3	41.2	300.2
May	23.8	242.5	84.6	36.4	336.6
June	14.0	256.5	89.4	(35)	
July	18.2	274.7	95.8		
Aug.	12.1	286.8	100.0		
Total	286.8			415 est.	

The unusually strong foreign market for U.S. soybeans and products this season reflects the shortfall in world supplies of other competing protein meals, particularly fish and peanut meals, and of competing oils such as peanut, fish, and sunflower. Also, there is a spurt in expansion of European livestock and poultry production, with increased demand for protein meals for feed. European livestock and poultry producers are continuing to stress efficiency in meat production, requiring the use of high-protein feeds. U.S. exports to Japan are increasing mainly because of further expansion in the poultry and livestock industry, expanding vegetable oil consumption and little change in supplies available from Mainland China.

SOYBEAN OIL

Total Offtake Continues Heavy

The record U.S. crush rate is boosting soybean oil supplies an estimated 17% over last season. Domestic oil use is also headed for a new record, but it is not gaining quite as sharply as supplies have. Nevertheless, sharply increased exports are helping keep the oil inventory at low working levels.

Domestic disappearance of soybean oil during October-April totaled 3.7 billion pounds, a new high for this period and 14% above the year before. The monthly domestic offtake averaged 532 million pounds compared with 468 million a year ago. Usage increased in all major food categories--salad and cooking oils, shortening and margarine.

Trends toward use of more soybean oil per person and increased population are helping to boost consumption. Also, production of competitive cottonseed oil and lard is somewhat lower this year while exports of each are up sharply. This has increased domestic demand for soybean oil.

Soybean Oil

Item	1968/69	1969/70 1/	Change
	-- Mil. lbs. --		Pct.
Stocks, Oct. 1	540	415	-23
Production	6,531	2/7,825	+20
Total supply	7,071	8,240	+17
Domestic use	5,756	6,450	+12
Shipments to U.S. Terr.	29	40	+38
Exports	870	1,200	+38
Total disposition	6,656	7,690	+16
Stocks, Sept. 30	415	550	33

1/ Preliminary. 2/ Based on 735 mil. bu. crush at 10.65 lb. per bushel.

Soybean oil exports during October-May 1969/70 totaled 748 million pounds, about 40% above their relatively low level last year. About two-thirds of this volume moved under P.L. 480 programs compared with 85% in 1968/69. Pakistan, India, Iran and Tunisia accounted for 62% of this year's total. Soybean oil exports this year have increased to Canada, Mexico, Panama, Peru, United Kingdom, and Israel. Exports during the summer are expected to pick up as shipments under P.L. 480 programs gain momentum.

World demand for soybean oil continues to increase. However, the large amount of oil produced from U.S. soybeans processed overseas limits the quantity that the United States can export to Western Europe and Japan. The oil equivalent of U.S. soybean exports in 1969/70 is estimated at 4.6 billion pounds (415 million bushels containing 11 pounds of oil per bushel) compared with 3.2 billion pounds (287 million bushels) a year ago.

Soybean oil output is running at record levels this year but the unusually strong demand has resulted in only a moderate buildup in stocks. Soybean oil stocks (crude and refined) increased from the industry minimum level of 415 million pounds last October 1 to 634 million on May 1. This is equivalent to about a month's total requirements at current disappearance rates. Oil stocks usually increase seasonally during the heavy fall-winter crushing period. Last season, stocks rose to a seasonal peak of 624 million pounds on June 1, 1969. Soybean oil stocks probably will decline this summer and by October 1 probably will be around 550 million pounds, around 135 million above October 1, 1969.

Monthly average soybean oil prices (crude, Decatur) have fluctuated widely this marketing year--between $9\frac{1}{2}$¢ per pound in December and 12¢ in March-April. The October-June average was 11¢ per pound, about $2\frac{3}{4}$¢ above 1968/69. Prices this summer likely will average well above the 9¢ level of July-September 1969.

SOYBEAN MEAL

Domestic Use and Exports Up Sharply

Increased meal supplies this season are being matched by expanded domestic use and exports, pointing to a September 30 meal inventory about the same as last year.

Relatively favorable livestock prices, more protein-consuming animals along with short supplies and high prices of fish meal and cottonseed meal are contributing to the record demand for soybean meal feeds.

Domestic feeding of soybean meal during October-May totaled 9.0 million tons, a new high for this period and 16% above the year before

Soybean meal

Item	1968/69	1969/70 1/	Change
	-- Thou. tons --		Pct.
Stocks, Oct. 1	145	157	8
Production	14,581	2/17,375	19
Total supply	14,726	17,532	19
Domestic use	11,469	13,300	16
Shipments to U.S. Terr.	56	75	34
Exports	3,044	4,000	31
Total disposition	14,569	17,375	19
Stocks, Sept. 30	157	157	---

1/ Preliminary. 2/ Based on 735 mil. bu. crush at 47.3 lb. per bushel.

Sharply increased exports reflect the continuing strong demand for feed in Western Europe and Japan, reduced availabilities of competing meals, and expanding use of high-protein rations due to increased poultry and pork production. Western Europe usually accounts for at least three-fourths of total U.S. soybean meal exports. During October-May total U.S. soybean meal exports were 2.7 million tons compared with 2.0 million the year before--a gain of 37%.

Most of the prospective increase in U.S. meal exports during 1969/70 will be in soybeans rather than meal as such. The meal equivalent of U.S. soybean exports this year is estimated at about 9.8 million tons (415 million bushels containing 47.3 pounds of meal per bushel) compared with 6.8 million tons in 1968/69.

Monthly average soybean meal prices (44% protein, bulk, Decatur) have fluctuated widely this marketing year--between $70 per ton in November and $87.50 in January. The October-June average was $77, about $3 above 1968/69. Average prices this summer probably will not differ much from the $75 per-ton-level during July-September 1969.

COTTONSEED

CCC Oil Inventory Liquidated; Oil Prices Advance

Oil mills bought 4 million tons of cottonseed during 1969/70, 95% of the 1969 crop. This was 10% below the volume purchased last season, but sharply above the low 3 million in 1967/68.

Crushings for the current season ending July 31 will total around 4 million tons. Crude cottonseed oil output is placed at 1.3 billion pounds and cottonseed meal output at 1.9 million tons, each below the previous year.

Cottonseed oil supplies for the year are 1.8 billion pounds, 12% above 1968/69, due to larger starting stocks held by CCC last August 1.

During the current marketing year, CCC has liquidated its entire inventory of 310 million pounds of once-refined cottonseed oil which was acquired under the 1968-crop price support program. CCC sold approximately 57 million pounds for domestic donation programs (as shortening and salad oil), 178 million pounds for export, and 75 million pounds for unrestricted use (either domestic use or export).

Domestic disappearance of cottonseed oil during August-April 1969/70 was 900 million pounds, 100 million above the comparable period a year ago. Usage is up in cooking and salad oils, shortening, and margarine. The increase stems mainly from CCC sales of cottonseed oil into shortening and cooking and salad oils for domestic donations. Domestic use for the entire year is estimated at 1.1 billion pounds, slightly above the previous year.

During August-May, cottonseed oil exports totaled 405 million pounds, sharply above the 104 million for the comparable period last year. Exports for the entire year probably will reach 450 million pounds or more, compared with 132 million in 1968/69. The larger volume this season stems from sales of CCC-owned stocks. The increased exports are going primarily to the United Kingdom, Iran, Egypt, Mexico, Pakistan, West Germany, and the Netherlands.

Based on the above estimates for domestic use and exports, carryover stocks of cottonseed oil (crude and refined) on August 1 may total around 175 million pounds, down sharply from the 440 million last year. This year's inventory will be in commercial hands. Last August, CCC held 70% of the carryover stocks. Stocks this May 1 totaled 325 million pounds, compared with 461 million in May 1969.

Cottonseed oil prices (crude, Valley) increased from a low of 10¢ per pound last September to 14¼¢ in May and June, with most of the increase occurring within the past several months. The August-June average was 11.8¢ per pound, virtually unchanged from the same period of 1968/69. The strong price pattern this season reflects the good demand for edible vegetable oils, both domestically and overseas, reduced output and declining stocks.

Cottonseed meal prices (41% protein, bulk, Memphis) gyrated from $63 per ton last October to $88 in January 1970, then declined to $67 in June. So far this season they averaged $70, around $3 above a year ago. Domestic disappearance during August-April totaled 1.6 million tons, a little below the year before. Smaller supplies account for the decreased usage and higher prices.

The 1970 cottonseed crop will be supported at $37 per ton, basis (100) grade, unchanged from the previous year. The program is carried out primarily through a product purchase program, whereby oil mills agree to pay not less than support price for cottonseed at cotton gins. Tenders from participating oil mills may be offered through July 1971 or a later date approved by CCC.

LARD

Domestic Use Smallest in 30 Years; Exports 50% Ahead of 1968/69

Lard production so far this season is down a tenth and for the entire 1969/70 year may total around 1.8 billion pounds compared with 2.0 billion last year. Hog slaughter has been down 8-9% and lard yields per hog are off slightly. This year's lard output is the smallest since the mid-thirties.

Domestic use of lard during October-April was 831 million pounds, some 21% below a year earlier. Heavy cutbacks of lard used in shortening and margarine manufacture mainly accounted for the drop although direct use also was down slightly. High lard prices and reduced availabilities (due to lower production and increased exports) have forced curtailment of usage, especially in compound fats. Total domestic offtake for the entire season is placed at about 1.4 billion pounds, a fifth below 1968/69 and the smallest in over 30 years.

Lard exports during October-May totaled 228 million pounds, 76 million above the comparable period in 1968/69. Two-thirds of this volume went to the United Kingdom--the major foreign outlet

Table 2.--Food fats and oils: Supply, disposition, and per capita disappearance, 1960-69

Item	Year beginning October									
	1960	1961	1962	1963	1964	1965	1966	1967	1968 1/	1969 2/
	Million pounds									
Stocks, October 1										
Butter	136	238	3/419	3/450	3/188	161	68	212	197	155
Lard	92	100	73	81	68	62	64	107	94	56
Tallow, edible	27	25	21	34	25	22	40	70	39	26
Corn oil	39	33	50	63	62	35	55	47	41	71
Cottonseed oil	217	170	296	488	433	236	202	207	99	377
Soybean oil	308	677	618	920	578	297	462	596	540	415
Palm oil	22	27	16	4/37	4/22	10	17	13	28	28
Peanut oil	12	9	11	30	8	18	34	31	14	17
Safflower oil	---	27	46	80	24	35	50	60	76	61
Sub-total	853	1,307	1,550	2,183	1,407	876	992	1,343	1,128	1,206
Finished products 5/	183	281	473	347	232	197	224	256	231	217
Total food fats and oils	1,036	1,588	2,023	2,530	1,640	1,073	1,216	1,599	1,359	1,423
Importa										
Butter	2	2	2	2	1	4	2	2	2	2
Tallow, edible	6/	6/	6/	1	1	1	1	2	6/	1
Olive oil	56	57	37	66	47	47	55	60	58	65
Corn oil	22	26	15	3	---	10	2	9	8	2
Cottonseed oil	---	---	---	---	---	---	17	13	6/	---
Palm oil	54	43	27	8	5	41	89	72	161	115
Peanut oil	6/	5	1	---	---	6/	---	6/	6/	6/
Sesame oil	1	1	1	1	1	2	1	1	2	1
Total	135	134	83	81	55	104	167	159	231	186
Production										
Butter	1,489	1,596	1,491	1,454	1,412	1,120	1,235	1,185	1,141	1,125
Lard	2,481	2,468	2,495	2,475	2,205	1,900	2,066	2,067	1,969	1,825
Tallow, edible	414	439	475	572	528	551	597	540	520	575
Oleo oil & stearine 7/	5	5	4	6	7	12	14	6	6	10
Corn oil	331	361	379	413	435	449	446	442	467	480
Cottonseed oil	1,784	1,950	1,927	1,936	1,999	1,830	1,223	1,020	1,450	1,350
Soybean oil	4,420	4,790	5,091	4,822	5,146	5,800	6,076	6,032	6,531	7,825
Peanut oil	101	67	91	114	144	163	175	198	199	185
Safflower oil (estimate)	---	51	152	104	111	138	170	139	100	100
Sub-total	11,024	11,727	12,106	11,896	11,987	11,963	12,001	11,629	12,382	13,475
Oilseeds (oil equivalent of exports)	1,445	1,688	1,989	2,115	2,361	2,940	3,050	3,078	3,210	4,625
Total Supply	13,640	15,137	16,201	16,622	16,043	16,080	16,435	16,465	17,162	19,709
Exports 8/										
Butter	8	9/19	9/131	9/319	150	24	7	31	37	15
Lard	513	508	571	706	431	218	247	246	281	450
Tallow, edible	5	5	5	4	5	3	5	6	8	8
Oleo oil & stearine	5	5	4	6	7	12	14	6	6	10
Corn oil	---	---	---	---	---	---	18	25	29	40
Cottonseed oil	369	9/471	9/389	9/584	641	275	78	51	141	450
Soybean oil	721	9/1,308	9/1,165	9/1,106	1,357	948	1,105	993	899	1,240
Peanut oil	19	6/	4	67	75	14	6	4	28	35
Processed food oils 10/	83	77	94	111	79	64	76	59	61	65
Sub-total	1,723	2,394	2,362	2,903	2,744	1,558	1,557	1,427	1,490	2,313
Oilseeds (oil equivalent)										
Cottonseed	2	3	3	3	3	3	2	1	1	5
Soybeans	1,431	1,685	1,984	2,103	2,265	2,764	2,930	2,972	3,148	4,565
Peanuts (for crushing abroad)	12	1	2	9	29	43	47	28	9	10
Safflower	---	---	---	---	64	130	71	77	52	45
Sub-total	1,445	1,688	1,989	2,115	2,361	2,940	3,050	3,078	3,210	4,625
Total exports	3,167	4,082	4,351	5,018	5,104	4,498	4,608	4,505	4,700	6,938
Domestic Use										
Butter	1,380	1,400	1,332	1,399	1,291	1,193	1,088	1,172	1,148	1,125
Lard	1,969	1,982	1,904	1,786	1,780	1,676	1,781	1,834	1,726	1,375
Tallow, edible	411	438	457	578	527	530	563	567	526	575
Corn oil	358	370	381	416	462	439	438	432	416	450
Cottonseed oil	1,461	1,352	1,347	1,407	1,555	1,590	1,157	1,090	1,031	1,100
Soybean oil	3,329	3,540	3,624	4,058	4,069	4,687	4,837	5,096	5,756	6,450
Olive oil	56	57	37	66	47	47	55	60	58	65
Palm oil	49	54	43	23	17	34	93	57	161	125
Peanut oil	86	70	69	69	59	133	172	211	168	150
Safflower oil	---	32	119	160	100	123	159	124	115	110
Sesame oil	1	1	1	1	1	2	1	1	2	1
Processed food oils 10/	-83	-77	-94	-111	-79	-64	-76	-59	-61	-65
Total	9,017	9,219	9,220	9,852	9,829	10,390	10,268	10,585	11,046	11,461
Total (calculated Net) 11/	8,919	9,027	9,346	9,967	9,864	10,363	10,256	10,610	11,060	
Total use for food 12/	8,572	8,599	8,845	9,605	9,298	10,044	10,030	10,316	10,591	
Per capita disappearance	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	
Butter (fat content)	6.1	6.1	5.7	5.9	5.3	4.9	4.4	4.7	4.6	
Margarine (fat content)	7.5	7.3	7.8	7.6	7.8	8.3	8.6	8.5	8.5	
Lard (direct use)	7.6	7.1	6.5	6.4	6.2	5.7	5.4	5.4	5.2	
Baking and frying fats	12.6	13.1	13.6	14.0	13.6	16.0	15.7	16.1	16.6	
Salad and cooking oils	9.2	10.4	10.6	12.0	12.2	12.9	12.8	13.2	14.0	
Other edible uses	2.3	1.4	1.3	2.9	.4	2.2	2.5	2.4	2.3	
Total (fat content)	45.4	44.8	45.5	48.8	46.6	50.0	49.4	50.3	51.1	

1/ Preliminary. 2/ Forecast except October 1 stocks. 3/ Includes estimates of butter oil, ghee, and canned butter. 4/ Includes stocks held by GSA. 5/ Shortening, margarine (fat content), and salad and cooking oils. 6/ Less than 500,000 pounds. 7/ Represents exports only; production data are not available. 8/ Includes shipments to U.S. territories. 9/ Includes estimates of foreign donations of fats and oils, not reported by Census. 10/ Includes exports of processed food oils not classified by kind, shortening and other secondary fats. 11/ Adjusted to reflect changes in stocks of finished products. 12/ Excludes food fats and oils used for non-food purposes, but includes non-food oils (coconut and palm kernel) used in food.

for U.S. lard--under the USDA export payment program. The program was initiated in January 1969 to meet the competition from subsidized lard from the EEC. So far this marketing year, 205 million pounds have been accepted for export, at a payment rate of 1¢ per pound. In addition about 50 million pounds were accepted last year (July-September) that did not get exported until after October 1. Exports this season have also been made to Poland and Yugoslavia in contrast to none last year. Total lard exports for the entire 1969/70 year probably will approach 400 million pounds, up sharply from last year's 223 million and the largest since 1963.

Lard prices (tanks, loose, Chicago) this season are exceptionally strong, averaging 11¾¢ per pound during October-June, nearly 4¢ above a year earlier. Reduced output and heavy exports have held lard stocks to relatively low levels this year. Stocks on May 1 totaled 73 million compared with 93 million on May 1, 1969. Prices peaked this March at 13½¢ per pound then declined to 10½¢ in June.

PEANUTS

Edible Use Up 3%; 1970 Support $255 Per Ton

The total supply of peanuts for the marketing year ending July 31, 1970, is 2.9 billion pounds, about the same as 1968/69. Grower prices for 1969-crop peanuts averaged 12.2¢ per pound, compared with 11.9¢ a year ago.

During August-May, use of shelled peanuts in primary edible products totaled 891 million pounds, nearly 3% above the year-ago period. Usage increased in peanut candy, salted peanuts, peanut butter, and other products. Per capita consumption of peanuts (farmers' stock basis) this year is expected to total close to 8 pounds, up slightly from 1968/69.

Peanut crushings for oil and meal during August-May totaled 508 million pounds (farmers' stock equivalent), 9% below a year earlier. Crushings, down sharply early in the marketing year, have picked up. Crushings for all of 1969/70 may total around 600 million pounds, down from last year's 654 million pounds.

USDA has announced that 1970-crop peanuts will be supported at a minimum national average rate of $255 per ton (12.75¢ per pound), an increase of $7.50 over the 1969 level. The new support reflects 75% of the estimated August 1970 peanut parity price. Although this price will not be decreased, it may be increased if changes in the parity price or supply situation by August so warrant. Support by types is as follows: Virginia, $264.93; Runner, $245.23; Southeast Spanish, $256.77; Southwest Spanish, $252.45; and Valencia (suitable for cleaning and roasting), $264.93. Growers must comply with their 1970 acreage allotments to be eligible for price support loans.

FLAXSEED

Crushings Down Slightly; Carryin Stocks Record Large

Flaxseed prices at Minneapolis (No. 1 grade) for the marketing year ended June 30, 1970, averaged $2.90 per bushel, 19¢ below 1968/69. Linseed oil prices (raw, tanks) averaged about 12¢ per pound and linseed meal prices (34% protein, bulk) averaged $69 per ton, both slightly below 1968/69.

Flaxseed supplies in 1969/70 totaled 46 million bushels, nearly two-fifths above the previous year and one of the largest volumes in over a decade. Crushings totaled around 14 million bushels, a shade below last season and record low. Exports totaled about 6 million bushels, compared with 10 million in 1968/69. Almost all the flaxseed exports occurred in the first half of the marketing year. Another 2 million bushels were used to seed the 1970 crop, leaving carryover stocks on July 1, 1970, at an estimated 24 million bushels, mostly in the hands of CCC and nearly 2½ times that of July 1, 1969.

During 1969/70, farmers placed 12.4 million bushels of flaxseed under the price support program, most of which was acquired by CCC, as below-loan rate prices throughout the year precluded large redemptions. These acquisitions, plus the additional 7.7 million bushels from prior crops, make a total of 20 million bushels now in government hands. Also, CCC still owns 80 million pounds of linseed oil (equivalent to 4 million bushels of flaxseed) acquired from a toll crush program for 1963-crop flaxseed.

Linseed Oil Disappearance Off; Stocks Are Low

Domestic disappearance of linseed oil for the year ended June 30, 1970, was 250 to 275 million pounds, near last season's rate. This level represents record-low usage--down sharply from the postwar high of over 700 million pounds used in 1950/51. Since then, use drifted downward slowly but steadily, as competition from synthetic and substitute ingredients increased.

Linseed oil exports in 1969/70 approached 50 million pounds, compared with 77 million a year earlier. Tough competition from other regions--primarily Canada and Argentina--account for the decline. Large supplies in these two countries are enabling them to undersell U.S. oil and flaxseed in world markets. Western Europe (primarily the European Community and the United Kingdom) is the major market.

Linseed oil stocks on May 1 totaled 134 million pounds compared with 157 million in May 1969. The industry has reduced inventories in recent years as CCC held large reserves of flaxseed and linseed oil.

The 1970 crop of No. 1 flaxseed is being supported at a national average price of $2.50 per bushel, down 25¢ from the 1969 rate. The program will be carried out through farm and warehouse-stored loans and purchases. For 1970, the terminal loan rates are eliminated. Instead, county rates were developed using a new "county plus" method, which considered market price relationship, cost of moving to storage nearer the market, and other pertinent factors. For the most part, this does not materially change county loan rate relationships. The following cities are still designated terminals for flaxseed: Los Angeles, San Francisco, Duluth, Superior, Minneapolis, St. Paul, and Corpus Christi.

INEDIBLE TALLOW

Domestic Use Up But Exports Lag; Prices Are Strong

Inedible tallow and grease production for the year ending September 30, 1970, is estimated at 4.7 billion pounds, around 100 million above the previous year. Domestic disappearance is expected to reach 2.8 billion pounds, up from the 2.7 billion of 1968/69. Use during October-April totaled 1,613 million pounds, compared with 1,571 million a year ago. Increased usage in animal feeds, fatty acids, and lubricants more than offset a decrease in soap.

Inedible tallow exports this marketing year may fall short of the 2 billion pounds of 1968/69. During October-May, they totaled 1,343 million pounds, 4% below a year ago. Volume is down for both commercial and concessional sales. Sharp decreases, primarily to India and Japan, more than offset moderate increases in a number of other countries--including Pakistan, the Netherlands, Algeria, and the United Kingdom. Japan, our largest single market, also is our best dollar customer. Exports under P.L. 480 programs through April totaled 48 million pounds, well below the level of a year ago. Another

26 million still remained to be shipped. Budget restrictions for P.L. 480 programs and higher tallow prices are factors behind the reduced exports this season.

Stocks of inedible tallow on May 1 were 368 million pounds compared with 336 million in May 1969. They probably will decline seasonally this summer as production slows and usage continues heavy.

Inedible tallow prices (prime, c.a.f. delivered, Chicago) during October-June averaged 7½¢ per pound, around 2¢ above 1968/69. They increased from around 6½¢ last December to about 8¢ in recent months, reflecting good tallow offtake and a general rise in fats and oils prices.

NONFOOD FATS

Per Capita Use Increases In 1969

Domestic nonfood use of fats and oils in calendar 1969 totaled a record 5.5 billion pounds, compared with 5.4 billion in 1968. On a per capita basis it translated to 27.1 pounds, up from the 26.6 pounds of the previous year but still below the 27.6 pounds of 1966. Increased use in fatty acids, animal feeds, and other industrial products more than offset declines in soap and drying oil products. (See tables 3 through 9 for 1969 statistics with comparisons).

The Fats and Oils Situation is published January, April, June, September and November. The summary of the next issue is scheduled for release September 28 and copies of the complete report will be available October 5.

Table 3.--Nonfood products: Fats and oils used, by product, total and per person, 1960-69

Year	Industrial products											
	Soap		Drying oil products 1/		Fatty acids 2/		Animal feeds		Other industrial products		All industrial products	
	Total	Per capita	Total	Per capita	Total	Per capita	Total	Per capita	Total	Per capita	Total	Per capita
	Mil. lb.	Lb.	Mil. lb.	Lb.	Mil. lb.	Lb.	Mil. lb.	Lb.	Mil. lb.	Lb.	Mil. lb.	Lb.
1960	872	4.8	833	4.6	1,245	7.0	504	2.8	877	4.9	4,331	24.0
1961	838	4.6	855	4.7	1,226	6.7	502	2.7	844	4.6	4,265	23.2
1962	782	4.2	891	4.8	1,319	7.1	876	4.7	909	4.9	4,777	25.6
1963	783	4.1	879	4.6	1,408	7.4	827	4.4	951	5.0	4,848	25.6
1964	786	4.1	902	4.7	1,598	8.3	838	4.4	935	4.9	5,059	26.3
1965	718	3.7	909	4.7	1,735	8.9	717	3.7	828	4.3	4,907	25.2
1966	731	3.7	923	4.7	1,957	9.9	893	4.5	928	4.7	5,432	27.6
1967	718	3.6	859	4.3	1,893	9.5	972	4.9	882	4.4	5,324	26.7
1968	703	3.5	868	4.3	1,907	9.5	1,011	5.0	863	4.3	5,352	26.6
1969 3/	688	3.4	775	3.8	1,945	9.6	1,078	5.3	1,016	5.0	5,502	27.1

1/ Paints, varnishes, floor coverings, oil cloth, printing inks, core oils, synthetic resins, insulation, linings, packings, coated fabrics (other than oil cloth), caulking and other protective coatings. 2/ The use of whole or crude tall oil in the distillation or fractionation process is reported by Census as consumed in fatty acids. This overstates the amount of tall oil used in fatty acids. 3/ Preliminary.

Table 4.--Nonfood products: Fats and oils used, by kind, 1960-69

Year	Inedible tallow and grease	Linseed oil	Tall oil	Coconut oil	Soybean oil	Fish and marine oil	Castor oil	Tung oil	Palm oil	Other	Total 1/
	Million pounds										
1960	1,832	364	794	459	362	135	131	40	30	184	4,331
1961	1,737	374	774	486	342	154	123	40	37	198	4,265
1962	2,163	381	839	503	365	150	142	34	31	169	4,777
1963	2,206	394	892	533	385	89	150	31	27	140	4,848
1964	2,302	377	1,003	539	392	92	141	31	38	144	5,059
1965	2,210	340	1,027	493	420	114	150	34	17	102	4,907
1966	2,473	333	1,188	485	484	174	153	31	14	97	5,432
1967	2,559	320	1,169	450	468	107	147	37	19	48	5,324
1968	2,580	252	1,121	434	509	150	160	38	20	88	5,352
1969 2/	2,778	290	1,174	431	480	87	167	31	24	40	5,502

1/ Adjusted for foreign trade and change in stocks. 2/ Preliminary.

Table 5.--Soap and synthetic detergents: Estimated sales, total and per capita, 1960-69 1/

Year	Estimated sales			Per capita			Percentage distribution	
	Soap (non-liquid) 2/	Synthetic detergent 3/	Total	Soap 2/	Synthetic detergent 3/	Total	Soap	Synthetic detergent
	Mil. lb.	Mil. lb.	Mil. lb.	Lb.	Lb.	Lb.	Pct.	Pct.
1960	1,230	3,940	5,170	6.8	21.8	28.6	24	76
1961	1,180	4,110	5,290	6.4	22.4	28.8	22	78
1962	1,210	4,420	5,630	6.5	23.7	30.2	22	78
1963	1,190	4,540	5,730	6.3	24.0	30.3	21	79
1964	1,140	4,730	5,870	5.9	24.6	30.6	19	81
1965	1,110	4,870	5,980	5.7	25.0	30.7	19	81
1966	1,100	5,000	6,100	5.6	25.4	31.0	18	82
1967	1,110	5,200	6,310	5.6	26.1	31.7	18	82
1968	1,110	5,350	6,460	5.5	26.6	32.1	17	83
1969 4/	1,070	5,490	6,560	5.3	27.0	32.3	16	84

1/ Estimates of the Soap and Detergent Association and are subject to revision. Data are on the built, finished-weight basis. 2/ Excludes scouring cleansers, liquid soaps, and reported exports where possible. 3/ Includes only those solid and liquid with end-uses and characteristics similar to soap, and excludes scouring cleansers and shampoos where possible. Liquids converted to pounds on the basis of 8 pounds per gallon. 4/ Preliminary.

Table 6.--Soap: Fats and oils used, by kind, 1960-69

Year	Inedible tallow and greases	Palm oil	Coconut oil	Palm kernel oil	Tall oil	Vegetable oil foots	Rosins	Other fats and oils	Total saponifiable materials
	Million pounds								
1960	746	10	145	12	15	23	3	---	953
1961	721	---	140	14	12	21	1/	2	911
1962	683	1	141	5	10	18	---	2	859
1963	684	3	152	---	8	14	---	---	861
1964	691	---	158	---	8	19	---	---	875
1965	651	---	145	---	9	8	---	8	820
1966	667	---	150	---	9	7	---	6	839
1967	643	---	146	---	8	12	---	4	813
1968	639	---	154	---	9	6	---	4	812
1969 2/	639	---	151	---	4	4	---	3	801

1/ Less than 500,000 pounds. 2/ Preliminary.

Table 7.--Surface Coatings: Production and fats, oils, and plastics used, 1960-69

Year	Production of paint, varnish and lacquer							Use of fats and oils		Use of plastics 5/		Drying oil-plastic usage ratio
	Total 1/	Trade sales products 2/			Industrial product finishes 3/			Total 4/	Per gallon	Total	Per gallon	
		Total	Paint and varnish	Lacquer	Total	Paint and varnish	Lacquer					
	Mil. gal.	Mil. gal.	Mil. gal.	Mil. gal.	Mil. gal.	Mil. gal.	Mil. gal.	Mil. lb.	Lb.	Mil. lb.	Lb.	Ratio
1960	663	344	344	6/	319	236	84	716	1.1	974	1.5	.7
1961	623	329	322	7	294	218	76	744	1.2	980	1.6	.8
1962	643	337	330	7	306	224	82	763	1.2	1,079	1.7	.7
1963	678	373	365	8	305	232	73	727	1.1	1,102	1.6	.7
1964	725	394	386	8	330	253	77	786	1.1	1,172	1.6	.7
1965	775	411	402	9	365	279	86	790	1.0	1,252	1.6	.6
1966	837	416	405	11	421	317	104	810	1.0	N.A.	N.A.	N.A.
1967	782	398	389	9	383	302	81	740	.9	1,185	1.6	.6
1968	843	424	413	11	419	328	91	747	.9	N.A.	N.A.	N.A.
1969 7/	880	431	420	10	450	345	105	651	.7	N.A.	N.A.	N.A.

1/ Bureau of the Census. 2/ Census defines trade products as "stock type" shelf goods normally distributed through wholesale--retail channels and purchased by painters and others for general application on new construction or for general maintenance. 3/ Census defines industrial finishes as those formulated to meet conditions of application and use of the product to which applied and are generally applied as part of the manufacturing process. Industrial finishes also include coatings specially formulated for industrial maintenance use requiring protection against extreme temperatures, fungi, chemicals, fumes, etc. 4/ Includes an estimated 90-95% of the oil listed by Census as used in synthetic resins which end up in protective coatings. 5/ Stanford Research Institute, Chemical Economics Handbook. 6/ Trade sales of lacquers included in industrial lacquers. 7/ Preliminary.

Table 8.--Fats and oils used in drying oil products, by kind of oil, 1960-69

Year	Linseed oil	Soybean oil	Tung oil	Fish oil	Castor oil	Oiticica oil	Tall oil	Other fats and oils	Total 1/
	Million pounds								
1960	351	172	38	49	85	15	86	38	833
1961	365	163	38	73	75	7	96	38	855
1962	374	166	32	70	92	16	104	37	891
1963	388	178	31	22	101	5	105	48	879
1964	372	188	31	41	111	10	102	47	902
1965	328	208	34	80	107	8	117	27	909
1966	310	214	33	130	89	8	114	25	923
1967	315	192	37	65	92	1	107	48	859
1968	251	193	38	122	89	11	109	56	868
1969 2/	278	184	31	62	65	11	90	54	775

1/ Excludes fats and oils used in fatty acids, many of which are used in drying oil products. 2/ Preliminary.

Table 9.--Fatty acid production and fats and oils used in manufacture, 1960-69

Year	Fatty acid production (all grades)	Fats and oils used in producing fatty acids						Fatty acid production as % of total fats and oils used
		Inedible tallow and grease	Tall oil 1/	Coconut oil	Vegetable foots	Other	Total	
	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Percent
1960	708	386	674	83	77	24	1,245	57
1961	706	356	676	74	82	37	1,226	58
1962	785	411	720	56	92	41	1,319	59
1963	836	449	779	51	89	39	1,406	59
1964	936	485	925	54	79	55	1,598	59
1965	1,041	540	1,023	54	72	46	1,735	60
1966	1,134	583	1,171	60	79	64	1,957	58
1967	1,089	545	1,167	56	81	43	1,892	58
1968	1,108	573	1,144	64	82	44	1,907	58
1969 2/	1,138	608	1,154	56	81	46	1,945	59

1/ The use of whole or crude tall oil in the distillation or fractionation process is reported by Census as consumed in fatty acids. This overstates the amount of tall oil going into fatty acids as the fractionation process also yields rosin acids, and secondary products. 2/ Preliminary.

STRUCTURAL CHANGES IN THE SOYBEAN INDUSTRY

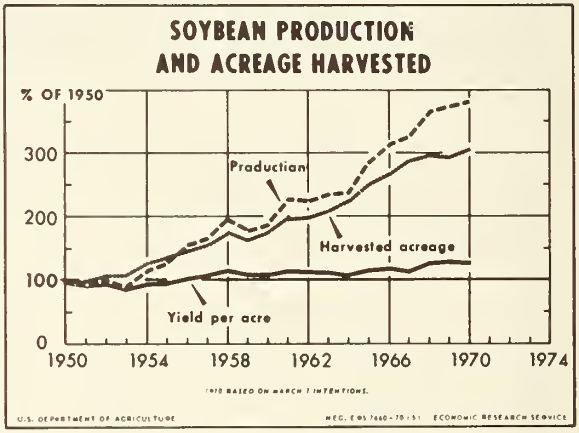
by
George W. Kromer

ABSTRACT: The soybean industry experienced dynamic growth during the 1950's and 1960's--at an annual rate more than double the average for all U.S. industries. Structural changes characterized all sectors of the soybean economy from the farm to the retail outlet. And during this evolution, the industry adapted to shifts in demand for soybeans and products. As a result, the soybean economy has developed into one of the most efficient in the U.S. agri-industry complex.

KEY WORDS: Soybean industry, soybean economic growth.

The U.S. soybean economy expanded phenomenally during the 1950's and 1960's. Output and usage increased at an average annual rate of about 9%. This was more than double the average growth rate for all U.S. industries. The rate of expansion in the soybean complex slowed some during 1960-69 (table 10). This pattern of development is typical of industries displaying rapid growth. The soybean economy will continue to expand in the 1970's but the rate of growth probably will not be as spectacular as over the past 20 years.

Soybean production rose from about 300 million bushels in 1950 to 1,117 million in 1969--an increase of 273%. Most of the gain reflected the tripling of harvested acreage--from 13.8 million to 40.9 million--as yields increased only gradually from 21.7 bushels per acre to 27.3 bushels. The average annual increment in soybean yields during 1950-69 was 0.3 bushel per acre or about 1% per year. The farm value of soybean production rose from $0.7 billion in 1950 (ranking sixth among cash crops) to $2.6 billion in 1969 (ranking second only to corn). Soybeans have been second among cash crops since 1964 (table 11.).



Structural changes have occurred in all sectors of the industry--production, processing and markets for soybean products. These changes have been characterized by shifts in size and number of farms, in areas of production, fewer but larger and more efficient crushing mills, processor vertical integration (into areas such as edible oil refining, food manufacture, mixed feeds and export), and expanded domestic and export markets. A rising standard of living both here and abroad has increased the demand for livestock and poultry products as well as soybeans, oil and meal.

Factors Stimulating Soybean Growth

Many developments have contributed to the sharp uptrend in soybean production and use, but several stand out. One is the rapid expansion in market outlets for soybeans, oil, and protein meal, both at home and abroad. Because of soybeans, the United States has emerged as the leading world supplier and trader in oilseeds, and oils and fats, currently accounting for 27% of world output and 30% of world exports, oil basis. The United States accounts for about three-fourths of the

Table 10.--Growth pattern of U.S. soybean industry, average 1950-59 and 1960-69

Growth indicator	Unit of volume	Base crop years			Average annual rate of increase					
		1949	1959	1969 1/	1950-59		1960-69		Total 20 years (1950-69)	
		Volume	Volume	Volume	Volume	Percent	Volume	Percent	Volume	Percent
Soybeans (Year beginning September):										
Harvested acreage	Mil. acre	10.5	22.6	40.9	1.2	8.4	1.8	6.2	1.5	7.3
Yield per acre	Bushels	22.3	23.5	27.3	0.1	0.7	0.4	1.6	0.25	1.2
Total production	Mil. bu.	234	533	1,117	30	9.4	58	8.0	44	8.7
Total utilization	Mil. bu.	234	569	1,200	33	9.7	63	8.0	48	8.8
Processing capacity (Est.)	Mil. bu.	240	500	2/800	26	8.0	30	6.0	28	7.0
Crushings	Mil. bu.	195	394	725	20	7.9	33	6.5	27	7.2
Exports	Mil. bu.	13	140	415	13	32.9	28	12.2	20	22.5
Soybean Oil (Year beginning October):										
Total production	Mil. lb.	1,937	4,338	7,825	240	8.8	349	6.3	294	7.5
Total utilization	Mil. lb.	1,937	4,329	7,700	239	8.7	337	6.2	288	7.4
Domestic use	Mil. lb.	1,646	3,376	6,450	173	7.8	307	6.9	240	7.3
Exports:										
Total	Mil. lb.	291	953	1,250	3/99	3/15.7	30	7.1	4/49	4/9.6
Dollars	Mil. lb.	291	364	425	3/23	3/15.0	6	20.8	4/11	4/19.1
P.L. 480	Mil. lb.	---	589	825	3/77	3/25.2	24	6.8	4/39	4/12.1
Soybean Meal (Year beginning October):										
Total production	Thou. tons	4,586	9,152	17,375	457	7.7	822	6.8	640	7.3
Total utilization	Thou. tons	4,590	9,128	17,375	454	7.7	825	6.8	640	7.3
Domestic use	Thou. tons	4,543	8,479	13,300	394	7.0	482	4.8	438	5.9
Export	Thou. tons	47	649	4,075	60	69.2	343	22.6	202	45.9
Soybean Oil Products 5/ (Year beginning October):										
Cooking and salad oils	Mil. lb.	288	680	2,200	39	9.6	152	12.9	96	11.3
Margarine	Mil. lb.	265	1,114	1,450	85	17.3	34	2.8	59	10.1
Shortening	Mil. lb.	776	1,183	2,275	41	5.0	109	7.3	75	6.2
Non-food	Mil. lb.	317	375	475	6	2.1	10	2.7	8	2.4

1/ Preliminary. 2/ Includes new capacity added recently. 3/ 1955-59. P.L. 480 enacted in 1954. 4/ 1955-69 rate. 5/ Soybean oil used in specified products.

Table 11.--Soybeans: U.S. acreage, production, farm value and price, 1925-70

Year	Acreage: Planted 1/	Acreage: Harvested for beans	Acreage: Harvested as % of planted	Production: Per acre harvested	Production: Total	Farm value of production: Total	Farm value of production: Soybeans rank among cash crops	Price: Season average received by farmers	Price: Support (farm basis)	Price: Parity (September)	Price: Percent of parity: Received by farmers	Price: Percent of parity: Support
	1,000 acres	1,000 acres	Percent	Bushels	1,000 bushels	1,000 dollars	Number	Dollars	Dollars	Dollars	Percent	Percent
1925	1,539	415	27	11.7	4,947	11,430	14	2.34	---	1.61	145	---
1930	3,072	1,074	35	13.0	13,929	19,058	12	1.37	---	1.51	91	---
1935	6,966	2,915	42	16.8	48,901	35,565	9	.73	---	1.22	60	---
1940	10,487	4,807	46	16.2	78,045	70,224	8	.90	---	1.19	76	---
1945	13,056	10,740	82	18.0	193,167	402,234	7	2.08	2.04	1.65	126	123
1950	15,048	13,807	92	21.7	299,249	737,760	6	2.47	2.06	2.59	95	80
1951	15,176	13,615	90	20.8	283,777	773,405	6	2.73	2.45	2.82	97	90
1952	15,958	14,435	90	20.7	298,839	811,376	6	2.72	2.56	2.84	96	90
1953	16,394	14,829	90	18.2	269,169	733,271	6	2.72	2.56	2.76	99	90
1954	18,541	17,047	92	20.0	341,075	840,767	6	2.46	2.22	2.80	88	80
1955	19,674	18,620	95	20.1	373,682	830,909	5	2.22	2.04	2.86	78	70
1956	21,700	20,620	95	21.8	449,251	980,299	5	2.18	2.15	2.93	74	75
1957	21,938	20,857	95	23.2	483,425	1,002,641	4	2.07	2.09	3.02	69	69
1958	25,108	23,993	96	24.2	580,250	1,160,112	4	2.00	2.09	3.04	66	69
1959	23,349	22,631	97	23.5	532,899	1,046,468	4	1.96	1.85	2.89	68	64
1960	24,440	23,655	97	23.5	555,085	1,184,910	4	2.13	1.85	2.90	73	64
1961	27,787	27,003	97	25.1	678,554	1,543,909	3	2.28	2.30	2.89	79	80
1962	28,418	27,608	97	24.2	669,186	1,564,352	3	2.34	2.25	2.97	79	76
1963	29,462	28,615	97	24.4	699,165	1,755,076	3	2.51	2.25	3.01	83	75
1964	31,605	30,793	97	22.8	700,921	1,836,441	2	2.62	2.25	3.03	86	74
1965	35,227	34,449	98	24.5	845,608	2,151,305	2	2.54	2.25	3.04	84	74
1966	37,294	36,546	98	25.4	928,481	2,553,612	2	2.75	2.50	3.22	85	78
1967	40,776	39,767	98	24.5	976,060	2,432,564	2	2.49	2.50	3.30	75	76
1968	42,037	41,104	98	26.8	1,103,129	2,679,210	2	2.43	2.50	3.42	71	73
1969 2/	42,088	40,857	97	27.3	1,116,876	2,597,429	2	2.33	3/2.25	3.64	64	62
1970 4/	43,064								3/2.25			61

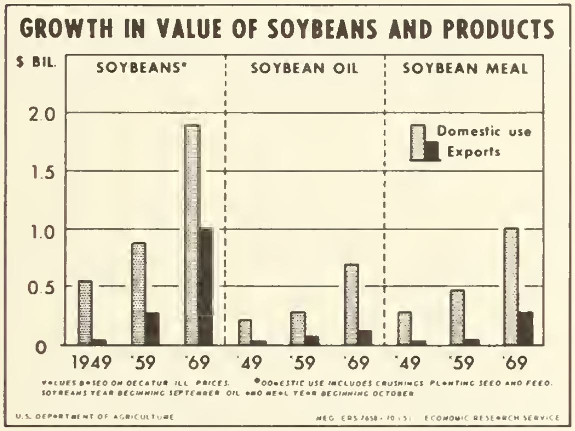
1/ Acreage grown alone for all purposes. 2/ Preliminary. 3/ No. 1 grade soybeans. Prior years No. 2 grade. 4/ March 1 planting intentions.

Table 12.--Soybeans: U.S. supply and disposition, 1953-70

Year beginning September	Supply: Production	Supply: Stocks, September 1: Trade 1/	Supply: Stocks, September 1: Government 1/: Owned by CCC	Supply: Stocks, September 1: Government 1/: Under loan	Supply: Stocks, September 1: Government 1/: Reseal	Supply: Stocks, September 1: Government 1/: Total	Supply: Stocks, September 1: Total stocks	Supply: Total supply	Disposition: Domestic disappearance: Crushings	Disposition: Domestic disappearance: Used for seed: Total	Disposition: Domestic disappearance: Used for seed: Per acre planted 2/	Disposition: Domestic disappearance: Feed	Disposition: Domestic disappearance: Residual 3/	Disposition: Domestic disappearance: Total domestic use	Disposition: Exports	Disposition: Total disposition
	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.
1953	269.2	18.7	2.2	1.5	---	3.7	22.4	291.6	217.8	22.9	1.24	1.4	1.3	243.4	40.1	283.5
1954	341.1	8.0	4/	.1	---	0.1	8.1	349.2	241.4	23.4	1.19	1.6	2.9	269.3	57.3	326.6
1955	373.7	13.2	8.2	1.2	---	9.4	22.6	396.3	281.9	25.8	1.19	1.6	-2.6	306.7	68.6	375.3
1956	449.3	20.9	4/	.1	---	.1	21.0	470.3	313.6	26.4	1.20	1.7	13.3	355.0	83.7	438.7
1957	483.4	24.2	6.2	1.2	---	7.4	31.6	515.0	350.9	29.5	1.17	1.5	1.9	383.8	88.4	472.2
1958	580.2	26.2	12.7	3.9	---	16.6	42.8	623.0	398.8	27.4	1.17	1.9	2.1	430.2	105.0	535.2
1959	532.9	29.0	44.6	5/	14.2	58.8	87.8	620.7	394.0	29.3	1.20	1.5	4.2	429.0	139.9	568.9
1960	555.1	36.9	14.7	.2	---	14.9	51.8	606.9	406.1	32.5	1.17	1.3	5.2	445.1	134.7	579.8
1961	678.6	27.1	---	---	---	---	27.1	705.7	431.4	33.3	1.17	1.3	12.0	478.0	149.4	627.4
1962	669.2	19.8	47.0	.4	11.1	58.5	78.3	747.5	472.8	34.6	1.17	1.1	12.5	521.0	180.5	701.5
1963	699.2	41.2	2.5	2.2	0.1	4.8	46.0	745.2	436.8	36.0	1.14	.9	17.0	490.7	187.2	677.9
1964	700.9	41.3	11.8	11.2	3.0	26.0	67.3	768.2	479.0	40.3	1.14	.9	6.1	526.3	212.2	738.5
1965	845.6	29.7	---	---	---	---	29.7	875.3	537.5	42.9	1.15	.9	7.8	589.2	250.6	839.8
1966	928.5	35.6	---	---	---	---	35.6	964.1	559.4	47.1	1.15	1.0	4.9	612.4	261.6	874.0
1967	976.1	56.2	7.4	21.5	5.0	33.9	90.1	1,066.2	576.4	47.8	1.14	.9	8.2	633.3	266.6	899.9
1968	1,103.1	28.4	29.4	67.0	41.5	137.9	166.3	1,269.4	605.9	47.7	1.13	.8	3.8	658.2	286.8	945.0
1969 7/	1,116.9	15	171.4	6/61.9	103.5	336.8	324.4	1,441.3	725	48.8	1.13	.9	11	786	415	1,201
1970 7/	8/1,134						9/240	1,374								

1/ Estimates. 2/ In the following year. 3/ Mostly statistical discrepancies. 4/ Less than 50,000 bushels. 5/ Small quantities included with reseal. 6/ Some of these soybeans probably had been redeemed prior to September 1. 7/ Preliminary. Disposition is estimated. 8/ March 1 planting intentions. 9/ Forecast.

world's soybean production and Mainland China and Brazil almost one-fourth. Exports of U.S. soybeans and products in recent years have represented about 90% of the world's trade in these commodities. During 1950-69 the average annual rate of growth of U.S. exports was 22% for soybeans, 46% for soybean meal and 10% for soybean oil. For several years, soybeans and products have been the leading dollar earner among U.S. agricultural exports. Total export value of soybeans, oil and meal increased from a mere $0.1 billion in 1949 to $1.5 billion estimated for 1969/70, about a fourth of total agricultural exports.


GROWTH IN VALUE OF SOYBEANS AND PRODUCTS

VALUES BASED ON DECATUR, ILL. PRICES. *DOMESTIC USE INCLUDES CRUSHINGS, PLANTING SEED AND FEED. SOYBEANS YEAR BEGINNING SEPTEMBER, OIL AND MEAL YEAR BEGINNING OCTOBER

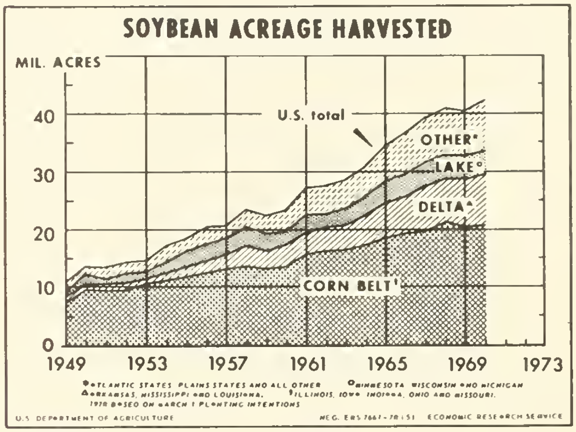
U.S. DEPARTMENT OF AGRICULTURE NEG. ERS 7658-70 (5) ECONOMIC RESEARCH SERVICE

Another factor has been the relatively favorable prices received by soybean growers, in most years averaging well above the Government support level as soybean production and utilization remained in close balance. New varieties of soybeans, better suited to both new and old production areas, have resulted in some long-run increase in yields, and broadened the production area within which competitive returns could be obtained. Another major factor has been the rapid increase in mechanization for planting, cultivating, and harvesting.

Corn Belt Accounts for Half of Soybean Acreage

The 1969 soybean crop was produced on about 41 million acres in 30 States. The Corn Belt is the most important region and its yields per acre are highest. 1/

During the past 20 years, soybean acreage in the Corn Belt has more than doubled (from 10 million in 1950 to 21 million in 1969), but even more rapid expansion elsewhere has reduced its relative importance. The proportion of U.S. acreage situated in the Corn Belt declined steadily from 71% in 1950 to 51% in 1969 (table 13). The Delta, Lake, Plains, and Atlantic regions showed significant increases during the 2 decades.


SOYBEAN ACREAGE HARVESTED

*ATLANTIC STATES, PLAINS STATES AND ALL OTHER. °MINNESOTA, WISCONSIN AND MICHIGAN. ^ARKANSAS, MISSISSIPPI AND LOUISIANA. 'ILLINOIS, IOWA, INDIANA, OHIO AND MISSOURI. 1970 BASED ON MARCH 1 PLANTING INTENTIONS

U.S. DEPARTMENT OF AGRICULTURE NEG. ERS 7667-70 (5) ECONOMIC RESEARCH SERVICE

The greatest expansion in soybeans outside the Corn Belt has occurred in the Delta States. Harvested acreage increased from about 1 million in 1950, comprising 7% of the U.S. total, to over 8 million in 1969 or 20% of the total. However, yields per acre in the Delta are sharply below those in the Corn Belt.

1/ Totals or averages for selected groups of States in each region are used for analytical purposes. These States represent the bulk of soybean production in the respective regions. The groups of States are as follows: Corn Belt--Illinois, Iowa, Indiana, Ohio, and Missouri; Lake States--Minnesota, Wisconsin and Michigan; Plains States--Kansas, Nebraska, South Dakota, and North Dakota; Delta States--Arkansas, Mississippi, and Louisiana; Atlantic States--North Carolina, South Carolina, Virginia, Maryland and Delaware.

Table 13--Soybeans: U.S. acreage, yield, and production, by selected groups of States, 1950-70

Acreage harvested for beans

Crop year	United States	Corn Belt 1/ Acreage	Corn Belt 1/ % of U.S.	Lake States 2/ Acreage	Lake States 2/ % of U.S.	Plains States 3/ Acreage	Plains States 3/ % of U.S.	Delta States 4/ Acreage	Delta States 4/ % of U.S.	Atlantic States 5/ Acreage	Atlantic States 5/ % of U.S.	All Other States 6/ Acreage	All Other States 6/ % of U.S.
	1,000 acres	1,000 acres	Pct.	1,000 acres	Pct.	1,000 acres	Pct.	1,000 acres	Pct.	1,000 acres	Pct.	1,000 acres	Pct.
1950	13,807	9,870	71	1,260	9	558	4	979	7	654	5	486	4
1951	13,615	9,434	69	1,245	9	547	4	1,080	8	713	5	596	4
1952	14,435	9,589	66	1,294	9	842	6	1,391	10	714	5	605	4
1953	14,829	10,241	69	1,517	10	699	5	1,071	7	748	5	553	4
1954	17,047	11,160	65	2,174	13	698	4	1,550	9	866	5	599	4
1955	18,620	11,721	63	2,469	13	846	4	1,931	10	977	5	676	4
1956	20,620	12,413	60	2,918	14	902	4	2,396	12	1,301	6	690	3
1957	20,857	13,038	62	2,896	14	717	3	2,191	11	1,331	6	684	3
1958	23,993	13,990	58	3,488	14	1,142	5	3,079	13	1,440	6	854	4
1959	22,631	13,180	58	2,554	11	924	4	3,505	16	1,479	7	989	4
1960	23,655	13,830	58	2,407	10	1,026	4	3,541	15	1,778	8	1,073	5
1961	27,003	15,930	59	2,736	10	1,305	5	3,894	14	1,915	7	1,223	5
1962	27,608	16,176	59	2,645	10	1,412	5	4,174	15	1,953	7	1,248	4
1963	28,615	16,192	56	2,809	10	1,479	5	4,801	17	1,967	7	1,367	5
1964	30,793	17,223	56	3,316	11	1,609	5	5,065	16	2,076	7	1,504	5
1965	34,449	18,837	55	3,766	11	2,113	6	5,633	16	2,268	7	1,832	5
1966	36,546	19,212	53	4,021	11	2,244	6	6,396	17	2,505	7	2,168	6
1967	39,767	19,807	50	4,285	11	2,267	6	7,415	19	2,879	7	3,114	8
1968	41,104	21,409	52	3,856	9	2,254	6	7,545	19	2,640	6	3,400	8
1969 7/	40,857	20,651	51	3,855	9	2,108	5	8,126	20	2,620	6	3,497	9
1970 8/	42,000												

Yield per acre harvested for beans

Crop year	United States	Corn Belt 1/	% of U.S.	Lake States 2/	% of U.S.	Plains States 3/	% of U.S.	Delta States 4/	% of U.S.	Atlantic States 5/	% of U.S.	All Other States 6/	% of U.S.
	Bushels	Bushels	% of U.S.	Bushels	% of U.S.	Bushels	% of U.S.	Bushels	% of U.S.	Bushels	% of U.S.	Bushels	% of U.S.
1950	21.7	23.1	106	15.9	73	17.3	75	22.6	98	16.2	75	18.8	87
1951	20.8	22.6	109	17.7	85	15.2	73	17.2	83	16.3	78	17.0	82
1952	20.7	23.0	111	18.9	91	13.4	65	15.1	73	16.3	79	16.8	81
1953	18.2	19.4	107	20.2	111	10.4	57	11.5	63	15.4	85	15.2	84
1954	20.0	22.1	110	21.3	106	14.1	70	11.3	56	14.9	74	13.5	68
1955	20.1	21.4	106	19.4	97	11.1	55	18.5	92	17.7	88	17.9	89
1956	21.8	24.3	111	19.9	91	10.7	49	17.2	79	20.1	92	18.3	84
1957	23.2	24.9	107	21.4	92	17.3	75	21.2	91	18.7	81	19.9	86
1958	24.2	26.8	111	17.8	74	19.1	79	23.3	96	21.4	88	22.5	93
1959	23.5	25.1	107	21.0	89	17.3	74	23.0	98	21.4	91	22.3	95
1960	23.5	24.9	106	18.8	80	19.9	85	22.3	95	22.8	97	22.4	95
1961	25.1	27.4	109	22.5	90	19.8	79	21.8	87	22.2	88	22.5	90
1962	24.2	26.3	109	20.0	83	19.6	81	21.0	87	20.5	85	21.7	90
1963	24.4	27.0	111	21.2	87	21.5	88	19.5	80	18.2	75	20.8	85
1964	22.8	24.3	107	19.7	86	17.8	78	19.7	86	18.4	81	21.9	96
1965	24.5	26.8	109	19.8	81	20.1	82	21.1	86	23.7	97	22.7	93
1966	25.4	27.2	107	22.2	87	23.8	94	23.3	92	18.1	71	24.1	95
1967	24.5	25.5	104	19.2	78	18.6	76	23.2	95	24.6	100	25.6	104
1968	26.8	30.8	115	23.3	87	20.4	76	25.3	94	18.6	69	21.8	81
1969 7/	27.3	30.7	112	22.0	81	24.2	89	20.5	75	27.1	99	24.6	90
1970 8/	27.0												

Production from harvested acres for beans

Crop year	United States	Corn Belt 1/	% of U.S.	Lake States 2/	% of U.S.	Plains States 3/	% of U.S.	Delta States 4/	% of U.S.	Atlantic States 5/	% of U.S.	All Other States 6/	% of U.S.
	1,000 bushels	1,000 bushels	% of U.S.	1,000 bushels	% of U.S.	1,000 bushels	% of U.S.	1,000 bushels	% of U.S.	1,000 bushels	% of U.S.	1,000 bushels	% of U.S.
1950	299,249	227,698	76	20,027	7	9,651	3	22,162	7	10,589	4	9,122	3
1951	283,777	213,133	75	22,021	8	8,324	3	18,259	6	11,643	4	10,127	4
1952	298,839	220,221	74	24,445	8	11,285	4	21,068	7	11,628	4	10,192	3
1953	269,169	199,041	74	30,589	11	7,305	3	12,331	5	11,510	4	8,393	3
1954	341,075	246,570	72	46,237	14	9,871	3	17,448	5	12,865	4	8,084	2
1955	373,682	251,080	67	47,945	13	9,398	3	35,890	10	17,278	5	12,091	2
1956	449,251	301,548	67	58,184	13	9,643	2	41,124	9	26,106	6	12,646	3
1957	483,425	324,149	67	61,933	13	12,372	3	46,410	10	24,904	5	13,657	2
1958	580,250	374,651	65	62,185	11	21,798	4	71,676	12	30,749	5	19,191	3
1959	532,899	333,381	63	49,871	9	16,746	3	80,230	15	30,652	6	22,019	4
1960	555,085	347,899	63	46,824	8	21,179	4	76,618	14	38,484	7	24,081	4
1961	678,554	440,094	65	63,288	9	27,400	4	78,594	12	41,620	6	27,558	4
1962	669,186	433,720	65	52,451	8	27,749	4	87,636	13	40,544	6	27,086	4
1963	699,165	450,928	64	66,975	10	28,525	4	87,349	13	36,944	5	28,444	4
1964	700,921	428,830	61	66,682	10	30,004	4	100,007	14	42,531	6	32,867	5
1965	845,608	513,512	61	71,291	8	44,359	5	122,570	15	52,327	6	41,549	5
1966	928,481	524,845	57	95,044	10	54,840	6	147,885	16	53,569	6	52,298	5
1967	976,060	527,049	54	83,534	9	46,032	5	171,605	17	68,261	7	79,579	8
1968	1,103,129	663,690	60	86,684	8	50,884	5	183,770	16	43,905	4	74,196	7
1969 7/	1,116,876	650,077	58	91,136	8	55,798	5	167,606	15	66,324	6	85,935	8
1970 8/	1,134,000												

1/ Illinois, Iowa, Indiana, Ohio, and Missouri. 2/ Minnesota, Wisconsin, and Michigan. 3/ Kansas, Nebraska, South Dakota, and North Dakota. 4/ Arkansas, Mississippi, and Louisiana. 5/ North Carolina, South Carolina, Virginia, Maryland, and Delaware. 6/ Includes New York, New Jersey, Pennsylvania, Georgia, West Virginia, Florida, Kentucky, Tennessee, Alabama, Oklahoma, and Texas. 7/ Preliminary. 8/ March 1 planting intentions.

Soybeans Only Major Crop Registering Acreage Increase During Last 20 Years

Since 1949, over 30 million acres in the United States have been shifted from other crops (mainly corn, cotton, oats and wheat) into soybean production. The sharpest increases occurred during the 1960's. Soybeans are the only major crop registering a national gain in harvested acreage during 1949-69, rising 290%. Acreages of other leading crops decreased--cotton 60%, oats 52%, wheat 37%, corn 36%, and hay 15% (table 14). Soybeans have never had acreage controls or planting restrictions. The land switch to soybeans was encouraged by Government programs which restricted acreage planted to feed grains, cotton and wheat. Of course, yields of these crops increased much more rapidly than for soybeans, thus reducing acreage requirements for these crops and contributing to the switch to soybeans.

In the Corn Belt, soybeans benefited mainly from the sharp drop in oat acreage. In the South they benefited because of the cutback in cotton and corn acreage.

Soybean Farms Increase In Number and Size

The expanding soybean economy and the shifting acreage patterns have increased the size and number of soybean farms.

The number of farms growing soybeans increased steadily from 370,000 in 1949 to 560,000 in 1964--a gain of about 51% (table 15). During this period the farms doubled in size--from 27 harvested acres of soybeans per farm to 53 acres. And value of soybean production rose even more sharply--from $1,220 per farm to $3,177. When data from the 1969 Census of Agriculture become available, it will undoubtedly show further growth in soybean farming and the average size of farms.

The greatest increase in the number of soybean farms occurred in the larger farm categories. Farms growing 100 acres or more of soybeans rose from 3% of total soybean farms in 1949 to 12% in 1964 while the 50 to 99 acre group increased from 11% to 20%. Farms with less than 15 acres decreased (from 220,000 to 145,000) and their proportion to total soybean farms dropped from 59% in 1949 to 26% in 1964. These trends likely have continued in recent years with the rapid increase in soybean acreages.

Proportion of Soybean Crop Crushed Declines as Exports Expand

In 1951, about 86% (244 million bushels) of the soybean crop was processed at domestic soybean oil mills, and 6% (17 million bushels) was exported as beans. Since then, the volume of domestically processed soybeans has increased at an average annual rate of about 7% (27 million bushels) while the volume of soybean exports has grown about 22% per year (20 million bushels). In 1969/70 an estimated 60% (725 million bushels) of soybeans utilized are being processed domestically and about 35% (415 million bushels) exported as beans. Planting seed accounts for about 5% of the total soybeans produced annually.

Total utilization of soybeans during the past 2 decades has increased at an average rate of 48 million bushels or 9% per year. The annual increment in the 1950's was 33 million bushels but rose to 63 million in the 1960's. Carryover stocks remained at relatively low levels until the late 1960's.

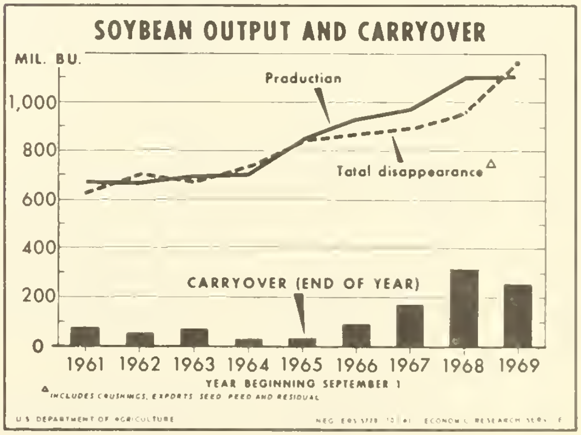


Table 14.--Soybeans and other selected crops: Harvested acreage and their changes, Corn Belt, South, and U.S., selected years, 1949-1969

Crop and Area	1949	Change in acreage from 1949 through 1950 1/	1953 2/	1957 3/	1960 4/	1965 5/	1969 6/	Percentage change 1949-69
	Million acres	Million acres	Million acres	Million acres	Million acres	Million acres	Million acres	Percent
Corn Belt 7/								
Corn	33.2	-3.4	-0.4	-3.7	+1.6	-2.8	-4.0	-12
Hay	13.0	+1.7	+.8	0	-1.2	-2.1	-3.9	-30
Oats	14.1	0	-1.9	-3.2	-5.8	-10.1	-10.5	-74
Soybeans	7.8	+2.0	+2.4	+5.2	+6.0	+11.0	+12.9	+163
Wheat	8.1	-1.4	-.2	-1.8	-2.4	-2.9	-3.8	-46
Total	76.2	-1.1	+.7	-3.5	-1.8	-6.9	-9.3	-12
South 8/								
Corn	16.9	+1.2	-3.0	-5.1	-7.6	-11.2	-11.7	-69
Cotton	23.3	-8.2	-3.5	-12.0	-10.8	-14.2	-14.2	-61
Hay	10.4	-.6	-.4	-1.9	-2.5	-1.7	-2.6	-24
Oats	3.3	+.1	+.7	+1.2	-.8	-1.7	-2.0	-59
Soybeans	1.0	+.6	+.8	+2.4	+4.3	+7.5	+11.3	+1,158
Wheat	14.0	-6.1	-4.2	-7.0	-4.9	-4.8	-5.9	-42
Total	68.9	-13.0	-9.6	-22.4	-22.3	-26.1	-25.1	-36
United States								
Corn	85.6	-3.8	-5.1	-13.7	-13.9	-30.3	-31.0	-36
Cotton	27.4	-9.6	-3.1	-13.9	-12.1	-16.3	-16.3	-60
Hay, all	72.8	+2.3	+2.2	-.9	-2.5	-1.7	-11.0	-15
Oats	37.8	+1.5	-.3	-3.7	-11.1	-19.3	-19.8	-52
Soybeans	10.5	+3.3	+4.3	+10.4	+13.2	+24.0	+30.4	+290
Wheat	75.9	-14.3	-8.1	-32.2	-24.0	-26.4	-28.3	-37
Total	310.0	-20.6	-10.1	-54.0	-50.4	-70.0	-76.0	-24

1/ Acreage restrictions on corn, cotton, and wheat. 2/ No acreage controls. 3/ Acreage restrictions on corn, cotton, and wheat; Soil Bank Program in effect. 4/ Acreage controls on cotton and wheat but not corn. Soil Bank Program in effect. 5/ Acreage diversion program for corn with part of the support price in the form of a direct payment. Cotton farms had regular allotments and domestic allotments with complying farmers receiving an additional support price (up to 15%) on the planted acreage within the domestic allotment. Voluntary program for wheat with acreage allotment and land diversion program, with wheat food processors and exporters required to buy certificates to cover all wheat they processed or exported. 6/ Voluntary feed grain program begun in 1961 extended through 1969. Voluntary wheat certificate program begun in 1964 in effect through 1969 with only limited changes. 7/ Illinois, Iowa, Indiana, Ohio, and Missouri. 8/ Southeastern States plus Mississippi, Tennessee, Louisiana, Arkansas, Texas and Oklahoma.

Table 15.--Selected characteristics of U.S. soybean farms, 1949-64

Census year	Number of farms	Acreage harvested for beans: Total	Acreage harvested for beans: Average per farm	Production: Total	Production: Average per farm	Value of production: Total	Value of production: Average per farm
	Thousand	Thou. acre	Acre	Thou. bu.	Bu.	Thou. dol.	Dol.
1949	370	10,148	27	212,440	574	451,129	1,220
1954	472	16,444	35	324,065	687	816,098	1,730
1959	500	22,080	44	515,628	1,032	1,017,902	2,037
1964	560	29,846	53	669,714	1,196	1,779,620	3,177
1969	N.A.						

Census year	Number of soybean farms: Less than 15 acres: Thou.	% of total	15 to 24 acres: Thou.	% of total	25 to 49 acres: Thou.	% of total	50 to 99 acres: Thou.	% of total	100 acres or more: Thou.	% of total
1949	220	59	N.A. 1/	---	89	24	41	11	11	3
1954	243	52	N.A. 1/	---	127	27	74	16	26	6
1959	225	45	N.A. 1/	---	135	27	94	19	46	9
1964	145	26	92	17	142	25	112	20	68	12
1969	N.A.									

1/ Not available. Included with less than 15 acres. Source: U.S. Census of Agriculture

Table 16.--Estimated number of soybean oil mills in the United States, by Regions and States, 1951-1970 1/

Region and State	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970
Corn Belt:																				
Illinois	31	29	31	33	31	30	25	23	21	19	19	17	17	15	16	16	16	14	13	12
Iowa	30	26	29	31	26	25	23	23	23	22	22	22	22	20	19	19	20	18	18	16
Indiana	10	9	10	9	10	8	6	6	5	4	5	5	5	5	5	5	5	5	5	5
Ohio	14	13	12	10	8	8	9	9	7	7	7	7	5	5	5	5	5	5	5	4
Missouri	9	7	7	7	6	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3
Total mills	94	84	89	90	81	75	67	65	60	56	57	55	53	49	48	48	49	45	44	40
% of U.S.	49	48	56	55	53	52	47	50	49	45	44	42	40	39	38	37	36	34	33	31
Lake and Plains:																				
Minnesota	7	7	9	9	8	8	9	8	7	7	8	8	9	7	7	7	7	7	7	7
Kansas	6	4	6	4	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4
Nebraska	3	3	3	3	3	3	2	2	2	2	3	3	3	3	3	3	4	5	4	3
Total mills	16	14	18	16	14	14	14	13	12	12	14	15	16	14	14	14	15	16	15	14
% of U.S.	8	8	11	10	9	10	10	10	10	10	11	12	12	11	11	11	11	12	12	11
Total Central States	110	98	107	106	95	89	81	78	72	68	71	70	69	63	62	62	64	61	59	54
% of U.S.	57	56	67	65	62	62	57	60	59	55	54	54	52	50	49	48	47	46	45	42
Delta:																				
Arkansas	10	10	5	5	7	7	7	7	6	7	7	7	8	7	8	8	10	11	11	11
Mississippi	13	12	5	8	9	9	9	9	10	11	11	11	11	11	11	13	15	15	15	15
Louisiana	3	3	3	3	3	3	3	2	2	1	1	1	2	2	2	2	2	3	3	4
Total mills	26	25	13	16	19	19	19	18	18	19	19	19	21	20	21	23	27	29	29	30
% of U.S.	13	14	8	10	13	13	14	14	15	15	15	15	16	16	17	18	20	21	22	23
Atlantic:																				
North Carolina	13	13	3	6	7	7	6	5	5	6	6	6	6	6	6	7	6	6	6	7
South Carolina	7	3	2	3	3	3	3	3	3	4	5	5	6	7	7	8	8	8	7	7
Virginia	3	3	3	3	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1
Maryland	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1
Delaware	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total mills	24	20	9	13	12	12	10	9	10	13	14	14	15	16	16	18	17	17	16	17
% of U.S.	13	12	6	8	8	8	7	7	8	10	11	11	11	13	13	14	13	13	12	13
Other:																				
Georgia	6	6	3	2	2	2	4	3	3	3	3	3	3	3	2	2	3	3	4	5
Florida	1	1	1	1	2	2	2	2	2	2	2	2	2	1	1	0	0	0	0	0
Alabama	2	2	1	2	3	3	3	2	2	2	3	3	3	3	3	3	4	3	3	4
Tennessee	6	4	2	3	3	3	4	5	5	6	7	7	7	7	7	7	7	7	8	8
Kentucky	4	4	3	2	2	2	2	2	2	3	3	3	3	2	2	2	2	2	2	2
Oklahoma	5	5	5	7	5	5	6	6	3	3	3	3	3	3	4	4	4	4	4	2
Texas	5	5	7	5	4	3	5	2	2	2	2	2	2	3	3	4	4	5	5	5
California	4	4	8	5	5	5	5	4	4	4	4	4	4	4	4	4	3	3	2	3
Total mills	33	31	30	27	26	25	31	26	23	25	27	27	27	26	26	26	27	27	28	29
% of U.S.	17	18	19	17	17	17	22	20	18	20	21	21	21	21	21	20	20	20	21	22
United States	193	174	159	162	152	145	141	131	123	125	131	130	132	125	125	129	135	134	132	130

1/ Estimates developed mainly from Census data and trade directories. Includes cottonseed and other oilseed mills that process significant quantities of soybeans. The number of active mills fluctuates during any year due to new plants coming into operation, some mills becoming dormant (due to explosions, fires, strikes, etc.) and dismantling of older mills. The estimates shown here are approximations of the number of mills at the beginning of the marketing year.

Processing Industry Expands With Fewer Firms

During the 1950's and 1960's the soybean processing industry grew from a large number of relatively inefficient, small mills independently owned into a great modern industrial complex--the bulk of which is owned or controlled by a small number of companies.

Currently, more than 55 soybean processing firms operate approximately 130 mills in the United States. This compares with the early 1950's when around 80 firms were running nearly 200 mills. Large firms often own and operate several soybean mills (horizontally integrated) while others may extend their operations by vertical integration into vegetable oil refining, food and feed manufacturing.

Number of Oil Mills Stabilizes During 1960's

Soybean processing plants are concentrated in the main areas of soybean production. The number of mills declined from an estimated 193 nationally in 1951 to 132 in 1969. During the 1960's the number of mills remained relatively steady--varying between 125 and 135 (table 16).

Meanwhile, locations of soybean processing plants leaned toward newer areas of soybean production. In the early 1950's, about two-thirds of the soybean oil mills were located in the Central Region (Corn Belt, Lake and Plains States) and one-third elsewhere. By 1970, however, the Central Region share dropped to about two-fifths.

Soybean processing plants in the Central Region are generally larger than those in other areas. The proportion of the industry's crush handled by mills in the Central Region declined from 89% in 1949 to 58% in 1969 (table 17).

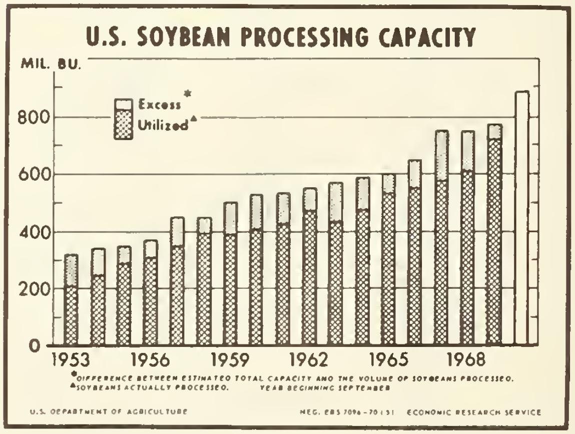
Trend Toward Concentration of Soybean Oil Mill Ownership

The Census of Manufactures provides data on concentration ratios in manufacturing industries--by comparing percentages of value of shipments by the largest companies in each industry.

The total value of shipments for products of the soybean oil mill industry hit \$2.1 billion in 1967--a sharp contrast to the \$0.6 billion in 1947. In 1963, the 4 largest companies accounted for 50% of the total value of industry shipments (concentration ratios for 1967 are not available as yet from Census) compared with 44% in 1947 (table 18). The 8 largest companies represented 70% of industry's shipments (63% in 1947), and the 20 largest companies accounted for 88% of the total shipments (81% in 1947).

Processing Capacity Matches Growth In Soybean Production

The U.S. soybean industry has expanded its processing capacity steadily over the past 20 years--annual increases averaging 7% (28 million bushels). It now approaches 800 million bushels annually compared with around 300 million in the early 1950's (table 19). Processors generally have continued to anticipate increases in soybean production and their growing markets for soybean oil and meal.



According to a recent industry survey, U.S. processing capacity will expand to 885 million bushels by the spring of 1971. Highly favorable processing margins and near-capacity crush this marketing year are encouraging the expansion. The

Table 17.--Soybean crushings, oil and meal production by Regions and States, year beginning September, selected years, 1949-69

Region and State	Soybean crushings					Soybean oil production					Soybean meal production				
	1949	1954	1959	1964	1969 1/	1949	1954	1959	1964	1969 1/	1949	1954	1959	1964	1969 1/
	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons
Corn Belt:															
Illinois	74.6	100.8	122.1	139.2		764	1,135	1,380	1,546		1,668	2,228	2,779	3,290	
Iowa	35.7	40.8	66.7	81.4		353	433	728	866		875	959	1,595	1,986	
Indiana	16.7	25.0	26.6	43.9		166	278	298	489		401	589	624	1,045	
Ohio	24.9	23.9	35.8	31.8		244	252	401	346		590	562	840	769	
Missouri	7.8	6.9	2/	2/		72	75	2/	2/		192	161	2/	2/	
Total	159.7	197.4	251.2	296.3	355	1,599	2,173	2,807	3,247	3,800	3,726	4,499	5,838	7,090	8,400
% of U.S.	82	82	64	62	49	83	83	65	62	49	82	81	64	62	49
Lake and Plains:															
Minnesota	7.0	15.6	30.0	28.1		67	159	318	286		172	364	696	665	
Kansas	3.8	2/	2/	2/		38	2/	2/	2/		92	2/	2/	2/	
Nebraska	1.2	2/	2/	2/		10	2/	2/	2/		28	2/	2/	2/	
Total	12.0	15.6	30.0	28.1	65	115	159	318	286	675	292	364	696	665	1,450
% of U.S.	6	6	8	6	9	6	6	7	5	9	6	7	8	6	8
Total Central States	171.7	213.0	28.2	324.4	420	1,714	2,332	3,125	3,533	4,475	4,018	4,863	6,534	7,755	9,850
% of U.S.	89	88	71	68	58	89	89	72	68	58	88	88	71	68	57
Delta:															
Arkansas	2.9	.8	8.9	4.1		25	7	96	45		67	19	206	100	
Mississippi	2/	.8	10.0	7.4		2/	8	111	83		---	19	234	176	
Tennessee	2/	2/	32.1	32.4		2/	2/	347	351		2/	2/	735	766	
Total	2.9	1.6	51.0	43.9	125	25	15	554	479	1,375	67	38	1,175	1,042	3,000
% of U.S.	1	1	13	9	17	1	1	13	9	18	1	1	13	9	18
Atlantic:															
North Carolina	1.5	.6	2.7	2/		12	1	26	2/		35	1	62	2/	
Total	1.5	.6	2.7	2/	2/	12	1	26	2/	2/	35	1	62	2/	2/
% of U.S.	1	---	1	---	---	1	---	1	---	---	1	---	1	---	---
Other States 3/	17.7	26.7	59.1	110.8	180	168	282	635	1,203	1,875	427	629	1,394	2,642	4,300
% of U.S.	9	11	15	23	25	9	10	14	23	24	10	11	15	23	25
United States	193.8	241.9	394.0	479.0	725	1,919	2,630	4,340	5,215	7,725	4,547	5,531	9,165	11,439	17,150

1/ ERS estimates based on Census data through May. 2/ Included in "All Other States." 3/ In some years includes data for individual States shown separately above but listed by Census as "Other States."

Table 18.--Soybean oil mills 1/: Number of companies and plants, concentration ratios, production and value of shipments for products, Census years, 1947-67

Census year	Companies	Establishments		Value of shipments		Concentration ratios 2/-- Value of shipments accounted for by				Primary product specialization ratio 3/	Coverage ratio 4/
		Total	With 20 employees or more	Total	Average per establishment	4 largest companies	8 largest companies	20 largest companies	50 largest companies		
	Number	Number	Number	Mil. dol.	Mil. dol.	Percent	Percent	Percent	Percent	Percent	Percent
1947	105	133	N.A.	585.7	4.4	44	63	81	N.A.	96	80
1954	55	88	69	826.4	9.4	41	64	89	N.A.	88	96
1958	66	117	83	999.2	8.5	40	63	86	99+	87	94
1963	68	102	71	1,473.4	14.4	50	70	88	99+	89	95
1967	N.A.	102	78	2,137.1	21.0	N.A.	N.A.	N.A.	N.A.	88	98

Census year	Production									
	Soybean oil					Soybean meal and other products				
	Crude			Once-refined 5/	Inedible use	Cake and meal	Soy flour and grits	Lecithin	Millfeed (hull meal)	Other byproducts
	Degummed	Not degummed	Total							
	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Thou. tons	Mil. lb.	Mil. lb.	Thou. tons	Mil. lb.
1947	N.A.	N.A.	1,523	1,335	N.A.	4,178	N.A.	N.A.	N.A.	N.A.
1954	N.A.	N.A.	2,403	2,090	90	5,316	236	31	N.A.	N.A.
1958	N.A.	N.A.	3,870	3,131	62	7,909	214	34	N.A.	N.A.
1963	N.A.	N.A.	4,959	3,915	21	10,463	326	44	N.A.	136
1967	3,891	2,119	6,011	4,975	6/	13,149	461	47	326	90
	Volume shipped									
1947	N.A.	N.A.	1,455	231	N.A.	3,964	N.A.	N.A.	N.A.	N.A.
1954	N.A.	N.A.	2,280	224	84	5,052	200	37	N.A.	N.A.
1958	N.A.	N.A.	3,457	353	59	8,093	261	36	N.A.	N.A.
1963	N.A.	N.A.	4,296	590	24	10,668	363	44	N.A.	137
1967	3,046	1,992	5,038	603	6/	12,906	575	58	347	94
	Value of shipments Million dollars									
1947	N.A.	N.A.	316	58	N.A.	305	N.A.	N.A.	N.A.	21
1954	N.A.	N.A.	306	32	12	390	18	5	N.A.	N.A.
1958	N.A.	N.A.	379	43	4	467	15	5	N.A.	N.A.
1963	N.A.	N.A.	394	62	2	802	19	6	N.A.	4
1967	317	205	522	71	6/	1,064	38	6	15	12

1/ SIC code 2092. Establishments primarily engaged in manufacturing soybean oil and meal. Establishments primarily engaged in refining soybean oil into edible cooking oils are classified in industry 2096. 2/ The percentage consists of the sum of the value of shipments of the largest 4 companies (or 8, 20, or 50 companies), divided by the total value of shipments of the industry. 3/ Measures the extent to which plants classified in the industry specialize in making products regarded aa primary to the industry; that ia, value of shipments of primary products of plants in the industry is expressed as a ratio of the total shipments of all products made by these establishments. 4/ Measures the extent to which all shipments of primary products of an industry are made by plants classified in the industry, as distinguished from secondary producers elsewhere; that is, value of shipments of the primary products made by plants classified in the industry is expressed as a ratio of the total shipments of primary products made by all producers, both in and out of the specified industry. 5/ Oil treated by alkali or caustic wash. Shipment figures exclude amounts of refined oil which have been further processed by refineries by bleaching, deodorizing, and/or winterizing. Such oils are classified as shortening or cooking oils and are included in industry 2096, Shortening and Cooking Oils. 6/ Included with once-refined to avoid disclosing fugures for individual companies.

SOURCE: Census of Manufactures. (N.A.) Not available.

Table 19.--Estimated number of soybean oil mills and processing capacity in the United States, 1951-69

Year beginning September	Processing mills 1/	Annual processing capacity: Total 2/	Annual processing capacity: Utilized 3/	Annual processing capacity: Excess 4/	Annual processing capacity: Ratio of utilized to total	Average per mill: Processing capacity	Average per mill: Capacity utilized 3/
	Number	Mil. bu.	Mil. bu.	Mil. bu.	Percent	Mil. bu.	Mil. bu.
1951	193	310	244	66	79	1.6	1.3
1952	174	(315)	234	81	74	1.8	1.3
1953	159	(320)	218	102	68	2.0	1.4
1954	162	(340)	241	99	71	2.1	1.5
1955	152	(355)	282	73	79	2.3	1.9
1956	145	370	314	56	85	2.6	2.2
1957	141	450	351	99	78	3.2	2.5
1958	131	450	399	51	89	3.4	3.0
1959	123	500	394	106	79	4.1	3.2
1960	125	525	406	119	77	4.2	3.2
1961	131	(535)	431	104	81	4.1	3.3
1962	130	550	473	77	86	4.2	3.6
1963	132	575	437	138	76	4.4	3.3
1964	125	585	479	106	82	4.7	3.8
1965	125	600	537	63	89	4.8	4.3
1966	129	650	551	99	85	5.0	4.3
1967	135	750	576	174	77	5.5	4.3
1968	134	750	606	144	81	5.6	4.5
1969 5/	132	770	725	45	94	5.8	5.5
1970 5/	130	6/885					

1/ Estimates developed from Census data and trade directories. Includes cottonseed and other oilseed mills that process significant quantities of soybeans. 2/ Trade estimates 1958 to date (except 1961). Data in brackets are USDA interpolations. 3/ Soybeans actually crushed. 4/ Difference between total capacity and soybeans utilized (crushed). 5/ Preliminary.
6/ Based on processing industry survey (April 1970) with expansions achieved by early spring 1971.

Table 20.--Soybeans: Value of products per bushel of soybeans processed and price spread, 1949-69

Year beginning September	Value of products per bushel: Soybean oil: Yield	Soybean oil: Price 1/	Soybean oil: Value	Soybean meal: Yield	Soybean meal: Price 1/	Soybean meal: Value	Total value	Soybean price: Received by farmers	Soybean price: No. 1 yellow, Illinois points	Spread between value of products and soybean price: Received by farmers	Spread: No. 1 yellow, Illinois points
	Pounds	Cents	Dollars	Pounds	Cents	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
1949	9.9	12.0	1.19	46.9	3.28	1.54	2.73	2.16	2.50	.57	.23
1950	9.7	17.9	1.74	46.8	3.16	1.48	3.22	2.47	2.95	.75	.27
1951	10.0	11.6	1.16	46.7	4.07	1.90	3.06	2.73	2.96	.33	.10
1952	10.8	12.0	1.30	47.3	3.52	1.66	2.96	2.72	2.83	.24	.13
1953	11.0	13.4	1.47	47.4	3.90	1.85	3.32	2.72	3.24	.60	.08
1954	10.9	12.2	1.33	45.9	3.06	1.40	2.73	2.46	2.60	.27	.13
1955	11.1	12.5	1.39	46.2	2.68	1.24	2.63	2.22	2.51	.41	.12
1956	10.9	12.7	1.38	47.5	2.36	1.12	2.50	2.18	2.33	.32	.17
1957	10.8	11.0	1.19	46.8	2.64	1.24	2.43	2.07	2.20	.36	.23
1958	10.6	9.6	1.02	47.3	2.82	1.33	2.35	2.00	2.12	.35	.23
1959	11.0	8.3	.91	46.5	2.77	1.29	2.20	1.96	2.07	.24	.13
1960	11.0	11.2	1.23	47.0	3.00	1.41	2.64	2.13	2.53	.51	.11
1961	10.9	9.7	1.06	47.2	3.11	1.47	2.53	2.28	2.41	.25	.12
1962	10.7	8.8	.94	46.9	3.57	1.67	2.61	2.34	2.50	.27	.11
1963	10.9	8.4	.92	48.0	3.58	1.72	2.64	2.51	2.59	.13	.05
1964	10.9	11.2	1.22	47.7	3.48	1.66	2.88	2.62	2.81	.26	.07
1965	10.7	11.8	1.26	47.5	4.02	1.91	3.17	2.54	2.91	.63	.26
1966	10.7	10.4	1.11	47.7	3.98	1.90	3.01	2.75	2.86	.26	.15
1967	10.6	8.6	.91	47.7	3.82	1.82	2.73	2.49	2.61	.24	.12
1968 2/	10.6	8.2	.87	47.4	3.76	1.78	2.66	2.43	2.54	.23	.12
1969 3/	10.7	10.8	1.16	47.3	3.84	1.82	2.98	2.33	2.46	.65	.52

1/ Simple average price per pound using the following quotations: Soybean oil, crude, tank cars, f.o.b. Decatur; soybean meal, bulk, Decatur, quoted as 41 percent prior to July 1950, 44 percent beginning July 1950. 2/ Preliminary. 3/ September-May average.

prospective 15% increase in crushing capacity is due largely to the expansion of existing plants, and bringing into operation new crushing facilities now under construction or about to start construction. This dramatic increase in U.S. crushing capacity is a reflection of the industry's confidence that worldwide demand for soybean oil and meal will be maintained and that soybean products will remain competitive in world markets. Thus, the soybean processing industry will accommodate further growth in demand for soybean products in the 1970's.

During the past 2 decades, soybean crushings increased in about the same proportion as processing capacity. Crushings in 1951/52 were 244 million bushels (capacity was 310 million) compared with 606 million (capacity was 750 million) in 1968/69. During the entire period, the ratio of utilized capacity (actual crushings) to total capacity averaged about 80%. Thus the industry historically has had excess processing capacity despite the sharp uptrend in soybean demand and the reduction in the number of plants.

With the construction of large solvent extraction mills and the advent of horizonally integrated processing (mixed feed-crushing operation), processors' margins were generally reduced from 27¢ per bushel in 1950/51 to 12¢ for the industry as a whole in 1968/69 (table 20).

The unprecedented demand for soybeans and products this marketing year is resulting in new records being set for crushings and utilization of capacity. The 1969/70 crush is placed at around 725 million bushels compared with last year's 606 million. This represents a gain of one-fifth and the biggest single year increase of record. At this level of crush the industry is operating at over 90% of its estimated capacity--and exceeding 1965 when it was 89%. Processor margins this marketing year are averaging over 50¢ per bushel (based on spot prices for soybeans, oil and meal at Decatur, Ill.) compared with 12¢ in 1968/69.

Processing margins are usually widest in the fall (when crushers buy large quantities of soybeans during the harvest at seasonally low prices) and they generally tend to decline the rest of the marketing year. When processing margins are favorable early in the season (such as the current year) many processors are able to "hedge in" their margins and this encourages sustained heavy crushings and insures a profitable year's operation.

Technological Changes Increase Efficiency of Soybean Mills

The evolution in soybean processing technology has been from hydraulic presses to mechanical screw presses or expellers to solvent extraction. Now the U.S. processing industry is close to 100% solvent extraction. The efficiency and capacity per plant increased markedly during 1950-69, as the number of mills declined, integrated mill operations increased and processing technology advanced. Individual plant sizes vary widely but the average mill in 1951 processed 1.3 million bushels annually. Today the average mill processes 5.5 million bushels (table 19).

As the processing industry converted to solvent extraction, oil recovered per bushel increased from 9.7 pounds in 1950 to 10.7 pounds in recent years. This increase is largely due to the more efficient solvent technique and higher average oil content of the beans processed. Soybean meal yields have remained relatively steady over the past 20 years, varying between 47 and 48 pounds per bushel.

Oil yields per bushel (calculated from Census data) have averaged a little below 11 pounds in recent years, reflecting the trend toward increased production of degummed soybean oil (crude oil with phosphatides removed, which is the initial process in refining). Since Census instructs processors to report degummed oil as crude oil, this tends to understate the actual outturn of oil per bushel. In 1967, soybean oil mills reported that 65% of the total crude oil production was degummed. While Census data are not available for earlier years, the uptrend in lecithin production at oil mill locations indicates that degumming has also trended upward. Commercial lecithin is recovered in the degumming process.

Soybean Exports Expand Rapidly

The export sector of the U.S. soybean industry has boomed from a mere 15 million bushels in 1949 to a record 415 million bushels estimated for this marketing year (table 21). The average yearly rate of growth was 22% (about 20 million bushels). During 1950-59, the average annual rate of increase was 33%; the 1960-69 rate of gain was 12%. The United States this year is exporting about 4 bushels out of every 11 produced.

Most of the world markets for U.S. soybeans are in countries with rapidly rising standards of living, particularly Western Europe and East Asia.

Western Europe alone takes more than half of our soybean exports, reflecting its rapidly expanding livestock and poultry industry which requires mixed feeds. In the early 1950's we were exporting less than 10 million bushels of soybeans a year to Western Europe. Shipments climbed steadily through the 1950's and 1960's to the point where we are exporting well over 200 million bushels this marketing year. U.S. soybeans now account for over 90% of the total soybeans imported into Western Europe from all sources.

Japan, our most important single market, accounts for about one-fourth of U.S. soybean exports. Japan, too, has a rapidly expanding livestock and poultry industry requiring the importation of soybeans and soybean meal. Also, vegetable oil consumption has been increasing in Japan. In the early 1950's, our exports of soybeans to Japan stood at less than 20 million bushels a year. This market has shown a steady growth; this year we are exporting close to 100 million bushels. Japan has expanded its imports of soybeans about five-fold in 15 years, with the United States accounting for about four-fifths.

Thus, Europe and Asia have provided outlets for a steadily expanding volume of U.S. soybeans. For the most part, U.S. soybeans have been competitive in price, quality, and availability. Also, soybeans have duty-free entry to the world's largest market--the European Community and to several other countries including Canada, the United Kingdom, Denmark, Norway, and Israel.

Soybean Oil Output and Disappearance Expands 7% Annually

Soybean oil production has increased steadily from 1.9 billion pounds in 1949 to 7.8 billion estimated for the year ending September 30, 1970 (table 22). The average annual rate of increase was about $7\frac{1}{2}\%$ (nearly 300 million pounds) over the entire 20-year period. The rate during 1950-59 averaged about 9% but fell to 6% in 1960-69. Utilization of soybean oil has shown similar growth.

During the past 2 decades the production and use of animal fats trended downward while that of edible vegetable oils increased, mainly due to soybean oil. Production trends with competing fats and oils are as follows:

Fat or oil	1949	1959	1969	Change since 1949	
	-- Mil. lb. --			Mil. lb.	Pct.
Butter	1,701	1,435	1,125	-576	-34
Lard	2,626	2,726	1,825	-801	-31
Edible beef fats	168	347	575	+407	+242
Animal fats	4,495	4,508	3,525	-970	-22
Corn oil	242	332	480	+238	+98
Cottonseed oil	1,799	1,832	1,350	-449	-25
Peanut oil	217	92	185	-32	-15
Soybean oil	1,937	4,338	7,825	+5,888	+304
Edible oils	4,195	6,594	9,840	+5,645	+135
Percent distribution:					
Animal fats	52	41	26		
Edible oils	48	59	74		

Table 21 .--Soybeans, soybean meal and soybean oil: U.S. exports by country of destination, selected years, 1949-69

Continent and Country of destination	Soybeans 1/					Soybean meal					Soybean oil				
	Year beginning September					Year beginning October					Year beginning October				
	1949	1954	1959	1964	1969 2/	1949	1954	1959	1964	1969 2/	1949	1954	1959	1964	1969 2/
	1,000 bu.	1,000 bu.	1,000 bu.	1,000 bu.	1,000 bu.	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.	Mil. lb.
North America															
Canada	2,831	7,865	15,566	34,951		19.2	72.6	203.5	249.4		8	22	37	39	
Cuba	3/	3/	1,013	---		5.4	18.7	16.7	---		13	5	11	---	
Haiti	---	---	---	---		---	---	---	---		1	5/	9	12	
Mexico	---	---	6	177		---	.2	19.2	32.6		---	5/	2	2	
Panama	---	---	---	---		---	4/	1.0	8.2		---	---	---	---	
Other	3/	---	---	3/		4/	.2	1.9	15.6		3	2	3	19	
Total	2,831	7,865	16,585	35,128	66,000	24.7	91.8	242.3	305.8	300	25	29	62	72	150
South America															
Argentina	---	---	---	---		---	---	---	---		5/	---	9	40	
Brazil	---	---	---	---		---	---	---	---		---	---	---	27	
Chile	---	---	---	---		---	---	---	---		5/	5/	12	31	
Colombia	---	---	---	---		---	---	---	---		5/	1	42	7	
Ecuador	---	---	---	---		---	---	---	---		5/	5/	7	11	
Peru	---	---	---	---		---	---	---	---		5/	5/	18	24	
Venezuela	---	---	37	1,228		.7	1.1	8.7	1.4		---	---	---	---	
Other	---	3/	3/	6		4/	4/	4/	1.7		1	5/	21	11	
Total	---	3/	37	1,234	3,000	.7	1.2	8.7	3.1	3/	2	2	107	151	100
Western Europe															
Austria	---	---	---	---		---	---	---	---		19	---	1	1	
Belgium-Luxembourg	690	621	4,193	7,242		4/	17.4	66.6	177.0		5	5/	1	1	
Denmark	2,013	2,648	8,990	13,344		---	25.0	11.2	110.9		---	---	---	---	
Finland	---	164	382	1,218		---	---	---	---		---	---	---	---	
France	---	2,296	4,552	2,712		---	4.6	10.4	358.4		---	---	---	---	
Germany, West	2,998	6,993	15,345	23,325		---	1.7	72.2	300.7		156	3	52	8	
Greece	---	---	---	---		---	---	1.0	14.4		5/	9	---	55	
Ireland	---	---	---	---		---	3.9	1.7	18.1		---	---	---	---	
Italy	19	30	3,998	10,401		---	11.0	50.3	143.2		20	---	12	6	
Netherlands	946	6,622	25,819	28,066		---	39.6	85.3	245.2		15	---	66	10	
Norway	594	760	2,330	3,941		21.3	25.5	9.2	.2		---	---	---	---	
Spain	---	---	53	7,601		---	4/	44.4	77.9		32	---	358	239	
Sweden	---	520	8	188		---	.6	2.0	7.6		---	---	---	---	
Switzerland	128	332	736	379		---	1.2	4.0	9.6		---	---	---	---	
United Kingdom	---	1,683	3,390	7,127		---	16.0	1.4	34.4		---	5/	15	10	
Other	---	---	---	---		.5	11.9	2.3	3.5		7	1	4	17	
Total	7,388	22,668	69,797	105,545	220,000	21.9	158.4	362.0	1,501.1	3,025	255	14	509	348	15
Eastern Europe															
Bulgaria	---	---	---	---		---	---	---	9.6		---	---	---	---	
Czechoslovakia	---	---	---	491		---	---	---	---		---	---	---	---	
Hungary	---	---	---	700		---	---	---	47.4		---	---	---	---	
Poland	---	---	---	1,785		---	---	---	---		---	---	33	13	
U.S.S.R. (Europe and Asia)	---	---	---	1,320		---	---	---	---		---	---	---	---	
Yugoslavia	---	---	---	---		---	---	3.2	108.9		---	---	48	43	
Other	---	---	22	561		---	---	17.2	4/		---	---	---	---	
Total	---	---	22	4,857	6,000	---	---	20.4	165.9	500	---	---	80	56	10
Africa															
Algeria	---	---	---	---		---	---	---	---		---	---	---	9	
Egypt	---	---	---	---		---	---	---	---		---	---	47	6	
Morocco	---	19	419	418		---	---	---	---		---	5	40	64	
Tunisia	---	---	---	---		---	---	---	---		---	---	---	43	
Other	---	104	169	1		---	---	---	---		2	1	4	23	
Total	---	122	588	419	3/	---	---	---	---	5	2	6	90	145	175
Asia and Oceania															
Australia	---	---	---	---		---	---	---	14.6		---	---	---	---	
Hong Kong	---	32	244	1		---	---	---	---		5/	---	6	35	
India	---	---	---	---		---	---	---	---		---	---	---	137	
Iran	---	---	---	---		---	---	---	---		---	---	5/	71	
Israel	---	2,087	6,576	6,913		---	---	---	---		---	---	18	43	
Japan	4,599	20,041	39,276	49,298		---	185	.6	33.1		---	---	---	---	
Korea, South	---	280	1,432	---		---	---	---	---		---	---	---	---	
Pakistan	---	---	---	---		---	---	---	---		---	---	29	196	
Philippines	120	57	21	495		.1	1.8	12.7	7.1		---	---	---	---	
South Viet Nam	---	---	---	---		---	---	---	---		---	---	---	3	
Taiwan	188	4,137	5,057	7,648		---	---	---	---		---	---	3	13	
Turkey	---	---	---	---		---	---	---	---		---	---	46	38	
Other	---	16	296	637		---	---	2.0	5.1		6	5/	3	31	
Total	4,907	26,650	52,898	64,992	120,000	.1	20.3	15.3	59.9	170	6	5/	105	567	750
Total	15,127	57,307	6/139,931	212,175	415,000	47.4	271.7	648.7	2,036.0	4,000	291	50	953	1,339	1,200

1/ Census export data to Canada overstated since Canada contains major transit ports and ultimate destination was unknown at time of sbipment. Transshipment through Canadian ports are mainly destined for Western Europe and Asian countries. Census data to these countries are understated by the amount of transshipment via Canada.

2/ Estimate based on June indications.

3/ Less than 500 bushels.

4/ Less than 50 tons.

5/ Less than 500,000 pounds.

6/ Includes 3 millionbushels not designated.

Table 22.--Soybean oil: Supply, disposition, oil equivalent of exports of soybeans, and price, 1949-69

Year beginning October	Supply: Production	Supply: Stocks, October 1	Supply: Total	Disposition: Exports	Disposition: Shipments to U.S. Territories	Disposition: Domestic disappearance: Total	Disposition: Domestic disappearance: Per capita	Soybeans (oil equivalent of exports) 1/	Price per pound (tank cars): Crude, Decatur	Price per pound (tank cars): Refined, N.Y.
	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Pounds	Million pounds	Cents	Cents
1949	1,937	113	2,050	291	---	1,646	11.1	128	12.3	---
1950	2,454	113	2,567	490	---	1,906	12.6	272	17.8	21.5
1951	2,444	171	2,615	271	---	2,150	13.9	167	11.3	14.1
1952	2,536	194	2,730	93	---	2,462	15.7	320	12.1	14.8
1953	2,350	174	2,525	71	---	2,326	14.6	436	13.5	16.2
1954	2,711	127	2,838	50	---	2,609	16.1	666	11.9	14.8
1955	3,143	179	3,322	556	---	2,539	15.4	741	12.5	15.5
1956	3,431	227	3,658	807	---	2,565	15.2	937	12.7	15.4
1957	3,800	286	4,085	804	---	3,051	17.8	939	10.8	13.7
1958	4,251	2/281	4,532	930	---	3,304	19.0	1,209	9.5	11.2
1959	4,338	298	4,636	953	---	3,376	19.0	1,552	8.3	10.4
1960	4,420	308	4,728	3/721	-	3,329	18.5	1,431	11.3	13.6
1961	4,790	677	5,467	3/1,306	---	3,540	19.3	1,685	9.5	11.7
1962	5,091	616	5,709	3/1,165	---	3,624	19.5	1,984	8.9	11.1
1963	4,822	920	5,742	3/1,106	---	4,058	21.5	2.103	8.5	10.7
1964	5,146	578	5,724	3/1,340	17	4,069	21.2	2,265	11.3	13.4
1965	5,800	297	6,097	923	25	4,687	24.1	2,764	11.8	13.6
1966	6,076	462	6,538	1,077	28	4,837	24.6	2,930	10.1	12.4
1967	6,032	596	6,628	963	30	5,096	25.7	2,972	8.4	10.5
1968 4/	6,531	540	7,071	870	29	5,756	28.7	3,148	8.4	10.4
1969 5/	7,825	415	8,240	1,200	40	6,450	31.5	4,565	6/11.0	6/12.9
1970		550								

1/ Calculated at 11.0 pounds of oil per bushel. 2/ Adjusted to new Census basis which includes hydrogenated oils and stearin. 3/ Includes estimates of foreign donations of fats and oils, not reported by Census, 1960-64. 4/ Preliminary. 5/ Forecast except October 1 stocks. 6/ October-May average.

Table 23.--Soybean oil: Utilization, by products, 1949-69

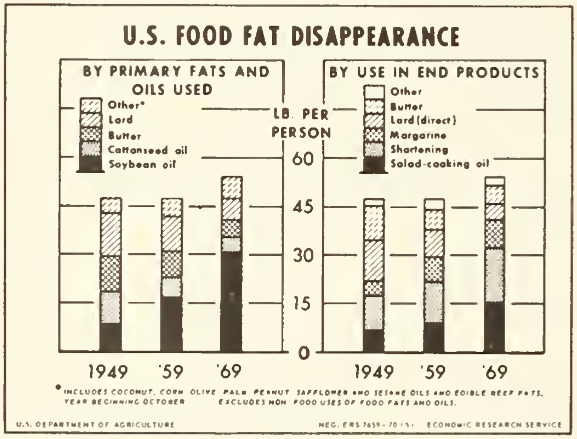
Year beginning October	Food: Shortening	Food: Margarine	Food: Cooking and salad oils 1/	Food: Other edible	Food: Total	Non-Food: Paint and varnish	Non-Food: Resins and plastics	Non-Food: Other drying oil products	Non-Food: Linoleum and oilcloth	Non-Food: Other inedible 2/	Non-Food: Foots and loss	Non-Food: Total	Total domestic disappearance
	Million pounds												
1949	776	265	288		1,329	112	---	---	30	97	78	317	1,646
1950	795	459	344		1,599	91	62	11	7	50	87	308	1,906
1951	800	583	404		1,786	109	68	11	19	60	97	364	2,150
1952	879	735	462		2,077	155	61	9	12	42	106	386	2,462
1953	905	661	437		2,002	138	56	7	7	32	84	324	2,326
1954	979	741	545		2,264	138	71	11	2	15	107	344	2,609
1955	803	725	668		2,196	115	71	9	3	39	107	344	2,539
1956	764	836	627		2,227	117	72	9	1	31	107	337	2,565
1957	993	1,041	692		2,726	103	54	9	---	28	132	325	3,051
1958	1,136	1,082	665	77	2,960	102	66	6	---	37	133	343	3,304
1959	1,183	1,114	680	23	3,000	101	74	4	---	48	147	375	3,376
1960	1,097	1,073	793	26	2,989	96	64	4	1	36	139	340	3,329
1961	1,353	1,036	771	20	3,180	88	74	4	---	43	151	359	3,540
1962	1,222	1,069	933	15	3,239	90	78	6	---	48	163	385	3,624
1963	1,391	1,126	1,146	21	3,684	97	84	6	---	42	146	374	4,058
1964	1,404	1,107	1,100	32	3,643	94	105	5	---	57	165	426	4,069
1965	1,739	1,241	1,200	38	4,218	100	104	6	---	53	206	469	4,687
1966	1,691	1,273	1,353	58	4,375	96	97	7	---	61	201	462	4,837
1967	1,816	1,234	1,494	44	4,588	86	97	7	---	59	259	508	5,096
1968 3/	1,978	1,290	1,967	36	5,271	87	94	7	---	61	236	485	5,756
1969 4/	2,275	1,450	2,200	50	5,975	85	80	5	---	65	240	475	6,450
1970													

1/ Adjusted for exports of refined and further processed salad oil. Prior to January 1965 no adjustment made for exports of undeodorized hydrogenated oil. 2/ Includes soap, fatty acids and other miscellaneous. 3/ Preliminary. 4/ Forecast.

Domestic Market Expanding for Soybean Oil

Domestic use of soybean oil advanced from 1.6 billion pounds in 1949 to a record 6.5 billion estimated for 1969/70. The annual rate of increase during 1950-59 was 7.8% but slowed to 6.9% in 1960-69. Increases in the late 1960's were greater than in the early years of the decade.

Expanding use of soybean oil is mainly responsible for an overall increase in the per capita use of food fats and oils--from around 45 pounds in the early 1950's to about 52 pounds this year--with the greatest gain occurring since the mid-1960's. The per capita consumption of animal fats fell from 20 pounds to about 13 pounds, while the vegetable oil usage rose from around 25 pounds to 39 pounds. Soybean oil accounts for 30 pounds of the vegetable oil portion compared with less than 10 pounds 20 years ago.


U.S. FOOD FAT DISAPPEARANCE

* INCLUDES COCONUT, CORN, OLIVE, PALM, PEANUT, SAFFLOWER AND SESAME OILS AND EDIBLE BEEF FATS. YEAR BEGINNING OCTOBER. EXCLUDES NON FOOD USES OF FOOD FATS AND OILS.

U.S. DEPARTMENT OF AGRICULTURE NEG. ERS 7659-70 (5) ECONOMIC RESEARCH SERVICE

Increased domestic use of food fats partly reflects the changing eating habits of Americans--in time, place, and frequency of eating. The use of "snack-type" foods has increased sharply in part due to the rising percentage of young people in the population and increased leisure time. A similar phenomenon is the growth of the "fast-food" enterprise, including hamburger and french fry franchises, the chicken and fish carryout, and a whole range of others now being promoted by entertainment personalities and sports heroes.

Salad and Cooking Oils Register Sharpest Gain

All the major end-use categories for soybean oil showed gains during 1950-69 (table 23). The biggest increase was in cooking and salad oils which registered an average yearly growth rate of 11%, followed by margarine at 10%, and shortening at 6%. The annual growth rate for nonfood uses of soybean oil was 2½%.

Soybean oil used in salad and cooking oils increased from 0.3 billion pounds in 1949 to 2.2 billion in 1969. The rate of increase during the 1950's was nearly 10% per year and accelerated to 13% in the 1960's. For the entire 1950-69 period, the average annual increment was about 100 million pounds.

Use of soybean oil in margarine manufacture rose from 0.3 billion pounds in 1949 to nearly 1.5 billion in 1969. The annual growth rate during the 1950's was about 17% but then slowed considerably to about 3% in the 1960's. The sharp advances in margarine production during 1950-59 followed the repeal of the Federal consumer taxes on margarine in 1950. The average annual increment over the past 2 decades was about 60 million pounds. Butter usage declined steadily throughout the period.

Soybean oil consumed in shortening manufacture trended upward fairly steadily from 0.8 billion in 1949 to 2.3 billion in 1969. The average annual increment throughout the period was 75 million pounds. The uptrend in shortening consumption is partly associated with declining direct use of lard (from about 1.8 billion pounds to 1.0 billion).

Soybean Oil Exports Expand Under P.L. 480 Programs

Soybean oil exports have fluctuated widely over the past 2 decades--from a mere 50 million pounds in 1954 to a peak of 1,340 million in 1964. During 1965-69, they varied between 0.9 billion and 1.2

Table 24.--Shortening, cooking oils and margarine industries [1]: Number of companies and plants, concentration ratios, production and value of shipments for products, Census years, 1947-67

Census year	Companies	Establishments		Value of shipments		Concentration ratios [2]-Value of shipments accounted for by				Primary product specialization ratio [3]	Coverage ratio [4]
		Total	With 20 employees or more	Total	Average per establishment	4 largest companies	8 largest companies	20 largest companies	50 largest companies		
	Number	Number	Number	Mil. dol.	Mil. dol.	Percent	Percent	Percent	Percent	Percent	Percent
1947	N.A.	127	N.A.	1,099.3	8.7	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1954	N.A.	135	81	1,154.2	8.5	N.A.	N.A.	N.A.	N.A.	86	83
1958 [5]	62	105	80	1,152.6	11.0	44	69	N.A.	N.A.	93	90
[illegible]	65	115	86	1,324.4	11.5	42	64	92	99+	88	89
[illegible]	N.A.	116	93	1,731.7	14.9	N.A.	N.A.	N.A.	N.A.	87	86

Census year	Production												
	Shortening [6]					Hydrogenated oils other than shortening [7]	Salad or cooking oil [8]					Vegetable oil winter stearin	Margarine
	100% vegetable oil		100% animal fats or blends with veg. oils		Total--all size containers		Soybean		All other		Total--all size containers		
	3 lbs. or less	More than 3 lbs. and bulk	3 lbs. or less	More than 3 lbs. and bulk			1 gallon or less	More than 1 gallon	1 gallon or less	More than 1 gallon			
	Million pounds												
1947	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1954	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1958	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
1963	N.A.	N.A.	N.A.	N.A.	2,670	1,213	N.A.	N.A.	N.A.	N.A.	2,342	89	1,770
1967	747	1,362	459	869	3,436	1,283	878	1,360	353	598	3,189	75	2,126
	Volume shipped												
1947	N.A.	N.A.	N.A.	N.A.	1,396	N.A.	N.A.	N.A.	N.A.	N.A.	646	11	732
1954	N.A.	N.A.	N.A.	N.A.	2,303	1,158	N.A.	N.A.	N.A.	N.A.	1,185	72	1,345
1958	N.A.	N.A.	N.A.	N.A.	2,138	1,007	N.A.	N.A.	N.A.	N.A.	1,928	55	1,543
1963	N.A.	N.A.	N.A.	N.A.	2,687	1,123	N.A.	N.A.	N.A.	N.A.	2,416	57	1,852
1967	746	1,405	424	882	3,457	1,269	886	1,298	365	584	3,132	44	2,231
	Value of shipments Million dollars												
1947	N.A.	N.A.	N.A.	N.A.	441	N.A.	N.A.	N.A.	N.A.	N.A.	179	3	237
1954	N.A.	N.A.	N.A.	N.A.	451	201	N.A.	N.A.	N.A.	N.A.	219	11	278
1958	N.A.	N.A.	N.A.	N.A.	418	147	N.A.	N.A.	N.A.	N.A.	302	8	296
1963	N.A.	N.A.	N.A.	N.A.	413	141	N.A.	N.A.	N.A.	N.A.	321	7	323
1967	152	221	64	119	557	185	138	174	75	93	479	6	457

[1] SIC Code 209[illegible]. Establishments primarily engaged in manufacturing shortening, table oils, margarine, and other edible fats and oils, n.e.c., by further processing of purchased animal and vegetable oils. Establishments primarily engaged in producing corn oil are classified in industry 2046. [2] The percentage consists of the sum of the value of shipments of the largest 4 companies (or 8, 20, or 50 companies), divided by the total value of shipments of the industry. [3] Measures the extent to which plants classified in the industry specialize in making products regarded as primary to the industry; that is, value of shipments of primary products of plants in the industry is expressed as a ratio of the total shipments of all products made by these establishments. [4] Measures the extent to which all shipments of primary products of an industry are made by plants classified in the industry, as distinguished from secondary producers elsewhere; that is, value of shipments of the primary products made by plants classified in the industry is expressed as a ratio of the total shipments of primary products made by all producers, both in and out of the specified industry. [5] The 1957 SIC combined into this industry two industries which were separate in the 1945 SIC: Industry 2092, Shortening and Cooking oils, and industry 2093, Margarine. The 1958 value of shipments figures for these 2 industries have been combined and the ratios for the 4 and 8 largest companies have been recomputed on a basis comparable to 1963. [6] Baking and frying fats including bulk shipments of hydrogenated oils to bakers and fryers. Containers 3 pounds or less are considered consumer sizes and those more than 3 pounds and bulk are commercial sizes. [7] For confectionery fats, whipped topping, etc. [8] Fully refined and deodorized oil produced at this plant. Containers 1 gallon or less are considered consumer sizes and those more than 1 gallon are commercial sizes. Source: Census of Manufactures. (N.A.) Not available.

billion with about three-fourths of the oil shipped under Food for Peace (Public Law 480). Each year since the beginning of the program in 1954, edible vegetable oils (soybean and cottonseed oils) have been designated as surplus commodities available for export for foreign currencies under P.L. 480. Over the entire 1954-69 period, approximately two-thirds of soybean oil exports were made under P.L. 480 (table 25).

Total soybean oil exports, when including the oil equivalent of exported soybeans, increased from 0.5 billion pounds in 1949 to an estimated 5.8 billion in 1969. On this overall oil and oil equivalent basis about 80% of the exports represented dollar sales.

Exports of soybean oil for dollars increased from 0.3 billion pounds in the mid-1950's to a peak of about 0.6 billion in the mid-1960's, but have generally declined in recent years. Over the years, the important dollar markets for soybean oil have been North American countries (Canada, Haiti, Panama), South American countries (Peru, Chile), and in some years, Hong Kong, Iran and UAR. Some West European countries were important in earlier years (such as Spain, West Germany, and the Netherlands) but large shipments of U.S. soybeans to these areas largely displaced our oil.

Soybean oil exports under P.L. 480 programs rose from 0.3 billion pounds in 1955 to a peak of 0.8 billion in 1967. The proportion of P.L. 480 exports to total soybean oil exports increased from 51% to 85%. These programs allow food-deficient nations to buy U.S. soybean oil with their respective currencies. Most P.L. 480 exports go to India, Pakistan, and Tunisia, with lesser amounts to other countries, such as Morocco and Iran.

Soybean Meal Growth Reflects Increased Livestock Production and Higher Feeding Rates

Production and total utilization of soybean meal have increased sharply over the past 2 decades--from 4.6 million tons in 1949 to 17.4 million in 1969. The average annual growth rate was about 7% or 640,000 tons. Nearly all soybean meal is fed to livestock and poultry. Feed manufacturers use soybean meal as a basic protein source for prepared animal rations.

Domestic use of soybean meal has trended upward rather steadily since 1949, rising from 4.5 million tons that year to 13.3 million in 1969. Factors primarily responsible for the rapid expansion have been increasing livestock numbers, increased feeding of high-protein concentrates per animal, and growth of the mixed feed industry.

High-protein consuming animal units increased from 107 million in 1949 to 140 million in 1969, an increase of 31% (table 26). During this period, important shifts occurred in the composition of the units. In 1949, all poultry accounted for 37% of total high-protein animal units and all livestock 63%. By 1969, however, the proportions in the 2 sectors were more nearly equally divided--poultry comprised 48% and livestock 52%.

Significant changes also occurred within the livestock sector. In 1949, cattle on feed claimed 5% of the total high-protein consuming animal units, milk cows and other dairy cattle 26%. By 1969, units from cattle on feed totaled 11% and milk cows and other dairy 12%.

While these shifts were occurring between the different kinds of livestock and poultry, total available high-protein feeds (in terms of 44% protein soybean meal equivalent) approximately doubled from 10 million tons to a record 20 million tons this year. On a per animal unit basis, the amount available for feeding increased from 191 pounds in 1949 to 283 pounds in 1969.

Soybean meal's contribution to total high-protein feed supplies increased from 45% in 1949 to 67% in the current feeding year. On a per animal unit basis, the gain was from 85 pounds to 190 pounds (table 27). During this period, supplies of other oilseed meals (mainly cottonseed and linseed) declined sharply. Animal protein (mainly fish meal, tankage, and

Table 25.--Soybean and cottonseed oils: U.S. exports for dollars and under Public Law 480 programs, 1949-69

Year beginning October	Soybean oil								
	Dollars				PL 480				
	Barter	CCC credit	Other 1/	Total	Title I 2/	Title II 3/	**Total**	Grand total	% PL 480
	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Percent
1949	---	---	291	291	---	---	---	291	---
1950	---	---	490	490	---	---	---	490	---
1951	---	---	271	271	---	---	---	271	---
1952	---	---	93	93	---	---	---	93	---
1953	---	---	71	71	---	---	---	71	---
1954	3	---	47	50	---	---	---	50	---
1955	---	---	274	274	282	---	282	556	51
1956	---	---	300	300	507	---	507	807	63
1957	---	---	202	202	602	---	602	804	75
1958	---	---	195	195	735	---	735	930	79
1959	---	---	364	364	589	---	589	953	62
1960	---	---	283	283	417	21	438	721	61
1961	---	---	624	624	466	218	684	1,308	52
1962	---	---	513	513	540	112	652	1,165	56
1963	31	---	509	540	520	45	565	1,106	51
1964	131	---	477	608	539	193	732	1,340	55
1965	176	21	182	379	324	220	544	923	59
1966	132	47	90	269	522	286	808	1,077	75
1967	67	18	47	132	618	213	831	963	86
1968 4/	75	---	54	129	574	167	741	870	85
1969 5/				375			825	1,200	69
	Cottonseed oil								
1949	---	---	145	145	---	---	---	145	---
1950	---	---	57	57	---	---	---	57	---
1951	---	---	122	122	---	---	---	122	---
1952	---	---	50	50	---	---	---	50	---
1953	---	---	398	398	---	---	---	398	---
1954	32	---	508	540	118	22	140	680	21
1955	3	---	306	309	290	6	296	605	49
1956	---	---	367	367	56	---	56	423	13
1957	---	---	154	154	94	---	94	248	38
1958	---	---	263	263	141	---	141	404	35
1959	---	---	409	409	94	---	94	503	19
1960	---	---	287	287	68	14	82	369	22
1961	---	---	183	183	202	86	288	471	61
1962	---	---	206	206	132	51	183	389	47
1963	---	---	328	328	221	35	256	584	44
1964	73	---	367	440	106	93	199	639	31
1965	51	---	154	205	65	2	67	272	25
1966	38	4	33	75	---	1	1	76	1
1967	19	---	28	47	---	2	2	49	4
1968 4/	69	---	68	137	---	2	2	139	1
1969 5/				425				425	6/
	Total soybean and cottonseed oils								
1949	---	---	436	436	---	---	---	436	---
1950	---	---	547	547	---	---	---	547	---
1951	---	---	393	393	---	---	---	393	---
1952	---	---	143	143	---	---	---	143	---
1953	---	---	469	469	---	---	---	469	---
1954	35	---	555	590	118	22	140	730	19
1955	3	---	580	583	572	6	578	1,162	50
1956	---	---	667	667	563	---	563	1,231	46
1957	---	---	356	356	696	---	696	1,052	66
1958	---	---	458	458	876	---	876	7/1,345	65
1959	---	---	773	773	683	---	683	1,456	47
1960	---	---	570	570	485	35	520	1,090	48
1961	---	---	807	807	668	304	972	1,780	55
1962	---	---	719	719	672	163	835	1,554	54
1963	31	---	837	868	741	80	821	1,689	49
1964	204	---	844	1,048	645	286	931	1,979	47
1965	227	21	336	584	389	222	611	1,195	51
1966	170	51	123	344	522	287	809	1,153	70
1967	86	18	75	179	618	215	833	1,012	82
1968 4/	144	---	122	266	574	169	743	1,009	74
1969 5/				800			825	1,625	51

1/ Includes dollar financing by AID. 2/ Includes all sales programs, i.e., foreign currencies, which permit conversion to dollars and dollar credit sales. 3/ Includes donation programs with voluntary agencies and disaster and other relief by AID. 4/ Preliminary. 5/ Forecast. 6/ Insignificant. 7/ Includes 10 million pounds of soybean oil that was shipped to Poland, Yugoslavia and Turkey that was reported by Census as shortening and mixed vegetable oils. Source: Total exports as reported by Bureau of Census. Breakdown between dollars and P.L. 480 from Fats and Oils Division, FAS.

Table 26.--High-protein feed: Quantity available for feeding and high-protein feed-consuming animal units, 1949-69

Year beginning October	Quantity available for feeding (in terms of 44% protein soybean meal equivalent): Oilseed meal	Animal protein	Grain protein	Total	High-protein consuming animal units 1/: Livestock	Poultry	Total	Total per animal unit
	1,000 tons	1,000 tons	1,000 tons	1,000 tons	Million	Million	Million	Pounds
1949	6,920	2,453	830	10,203	67.7	39.1	106.8	191
1950	7,798	2,470	1,069	11,337	69.7	42.2	111.9	203
1951	8,224	2,638	816	11,678	70.5	42.6	113.1	207
1952	8,079	2,663	767	11,509	69.1	41.9	111.0	207
1953	7,842	2,969	825	11,636	68.4	43.3	111.7	208
1954	7,809	2,931	853	11,593	71.1	42.2	113.3	205
1955	8,471	3,233	897	12,601	71.4	45.4	116.8	216
1956	9,350	3,005	857	13,212	69.1	46.1	115.2	229
1957	10,116	2,838	859	13,813	67.4	47.9	115.3	240
1958	11,143	3,056	903	15,102	70.3	49.1	119.4	253
1959	10,655	3,103	972	14,730	70.1	48.3	118.4	249
1960	11,259	3,281	947	15,487	70.0	51.8	121.8	254
1961	11,687	3,421	1,052	16,160	71.0	51.3	122.3	264
1962	11,976	3,543	1,069	16,588	73.0	52.0	125.0	265
1963	11,656	3,753	1,136	16,545	72.4	53.4	125.8	263
1964	11,804	3,557	1,181	16,542	69.9	55.9	125.8	263
1965	12,689	3,577	1,238	17,504	68.6	59.7	128.3	273
1966	12,561	3,950	1,250	17,761	71.0	62.0	133.0	267
1967	12,240	4,290	1,283	17,813	71.5	60.3	131.8	270
1968 2/	13,521	3,868	1,298	18,687	72.2	62.0	134.2	278
1969 3/	15,125	3,375	1,325	19,825	72.4	67.7	140.1	283

1/ Source: National and State Livestock-Feed Relationships, Statistical Bulletin No. 446, February 1970, ERS. 2/ Preliminary. 3/ Based on June 1970 indications.

Table 27 .--Soybean meal: Supply, disposition, meal equivalent of exports of soybeans, and price, 1949-69

Year beginning October	Supply: Production	Imports	Stocks, October 1 1/	Total	Disposition: Exports	Shipments to U.S. Territories	Domestic disappearance: Total	Per high protein animal unit	Soybeans (Meal equivalent of exports) 2/	Price per ton, Bulk, Decatur: 44% protein	49 or 50% protein
	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	Pounds	1,000 tons	Dollars	Dollars
1949	4,586	26	13	4,625	47	---	4,543	85	311	64.30	---
1950	5,897	33	35	5,965	181	---	5,748	103	660	64.45	---
1951	5,704	24	36	5,764	42	---	5,670	100	404	83.35	---
1952	5,551	41	52	5,644	47	---	5,540	100	758	67.55	---
1953	5,051	16	57	5,124	67	---	4,995	89	943	78.65	---
1954	5,705	---	62	5,767	272	---	5,458	96	1,439	60.70	---
1955	6,546	---	37	6,583	400	---	6,072	104	1,603	52.55	60.85
1956	7,510	---	111	7,621	443	---	7,123	124	2,028	47.45	54.75
1957	8,284	1	55	8,340	300	---	7,992	139	2,031	53.40	61.30
1958	9,490	3/	48	9,538	512	---	8,968	150	2,615	55.80	61.60
1959	9,152	3/	58	9,210	649	---	8,479	143	3,358	55.55	60.50
1960	9,452	---	83	9,535	590	---	8,867	146	3,090	60.60	66.50
1961	10,342	---	78	10,420	1,064	---	9,262	151	3,639	63.60	69.40
1962	11,127	---	94	11,221	1,476	---	9,586	153	4,282	71.30	77.10
1963	10,609	---	159	10,769	1,478	---	9,168	146	4,539	71.00	78.70
1964	11,286	---	122	11,408	2,036	23	9,243	147	4,890	70.20	79.20
1965	12,901	---	106	13,007	2,604	52	10,219	159	5,968	81.50	89.60
1966	13,483	---	132	13,615	2,657	49	10,772	162	6,327	78.80	86.30
1967	13,660	---	138	13,798	2,899	60	10,693	162	6,415	76.90	84.30
1968 4/	14,581	---	145	14,726	3,044	56	11,469	170	6,797	74.10	82.50
1969 5/	17,375	---	157	17,532	4,000	75	13,300	190	9,850	6/77.30	6/85.50

1/ Stocks at processors' plants. 2/ Calculated at 47.5 pounds of meal per bushel. 3/ Less than 500 tons. 4/ Preliminary. 5/ Forecast except October 1 stocks. 6/ October-May average.

meat meal) available for feeding increased 37% and grain protein (mainly gluten feed and meal) rose 60%.

Meal Exports Show Greatest Growth Recently

Export demand for soybean meal is generated essentially by the same factors affecting soybeans. Meal requirements have trended upward, particularly in Western Europe, where U.S. meal has established a reputation for high quality. The expanding demand for protein concentrates in Europe and Japan also reflects increasing demand for livestock products, rising incomes, and preferences for meat. Other factors include increased knowledge of the feeding value of soybean meal and continued improvement in feeding practices.

Soybean meal exports increased from a mere 47,000 tons in 1949 to 4.0 million tons estimated for 1969/70. During the 1950's, exports averaged only about 4% of total production. Since 1960, however, exports of soybean meal have been increasing rapidly, averaging about 17% for the decade. Sharpest increases have occurred recently and for the current year, exports are likely to comprise nearly a fourth of total output. The average annual rate of growth in soybean meal exports over the entire 20-year period was about 200,000 tons or 46%. Western Europe accounts for about three-fourths of our total soybean meal exports.

While soybean meal exports have expanded sharply in recent years, most U.S. meal is still exported in the form of soybeans. During the 1969/70 marketing year, an estimated 13.8 million tons of soybean meal (including the meal equivalent of 415 million bushels of soybeans) will be exported. Of this total, 4.0 million tons or 29% may move abroad as meal; 9.8 million tons or 71% will move in the form of soybeans.

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Table 28.--Domestic disappearance of food and nonfood fats and oils, by end products, total and per person, year beginning October by quarters, with comparisons, 1967 to date

Year and Quarter	Unit	Food							Nonfood				All products (fat content)
		Butter (actual weight)	Margarine (actual weight)	Lard (direct)	Baking and frying fats (shortening)	Salad and cooking oils	Other edible 1/	Total (fat content)	Soap 2/	Drying oils 3/	Other 4/	Total	
1967-68													
Oct.-Dec.:													
Total	Mil.lb.	305	549	262	828	615	117	2,509	106	236	986	1,328	3,837
Per person	Lb.	1.5	2.7	1.3	4.1	3.1	.6	12.4	.5	1.2	5.0	6.7	19.2
Jan.-Mar:													
Total	Mil.lb.	311	566	281	811	654	117	2,571	197	185	929	1,311	3,882
Per person	Lb.	1.6	2.8	1.4	4.0	3.3	.6	12.8	1.0	.9	4.6	6.5	19.4
Apr.-June													
Total	Mil.lb.	285	493	282	771	700	130	2,506	211	192	932	1,334	3,840
Per person	Lb.	1.4	2.5	1.4	3.8	3.5	.6	12.5	1.0	1.0	4.6	6.6	19.1
July-Sept:													
Total	Mil.lb.	272	508	260	823	677	117	2,501	190	256	928	1,374	3,876
Per person	Lb.	1.3	2.5	1.3	4.1	3.4	.6	12.4	.9	1.3	4.6	6.8	19.2
Season:													
Total	Mil.lb.	1,172	2,116	1,085	3,233	2,645	482	10,087	703	869	3,775	5,348	15,435
Per person	Lb.	5.8	10.5	5.4	16.1	13.2	2.4	50.3	3.5	4.3	18.8	26.6	76.9
1968-69 5/													
Oct.-Dec:													
Total	Mil.lb.	321	575	285	859	679	123	2,671	106	228	990	1,324	3,995
Per person	Lb.	1.6	2.8	1.4	4.3	3.4	.6	13.2	.5	1.1	4.9	6.6	19.8
Jan.-Mar:													
Total	Mil.lb.	305	561	238	852	682	117	2,586	189	201	961	1,351	3,937
Per person	Lb.	1.5	2.8	1.2	4.2	3.4	.6	12.8	.9	1.0	4.7	6.7	19.4
Apr.-June:													
Total	Mil.lb.	243	502	231	814	788	121	2,550	197	210	991	1,397	3,947
Per person	Lb.	1.2	2.5	1.1	4.0	3.9	.6	12.6	1.0	1.0	4.9	6.9	19.4
July-Sept:													
Total	Mil.lb.	278	512	291	842	683	111	2,561	200	213	985	1,398	3,959
Per person	Lb.	1.4	2.5	1.4	4.1	3.4	.5	12.6	1.0	1.0	4.8	6.9	19.5
Season:													
Total	Mil.lb.	1,148	2,150	1,045	3,368	2,833	472	10,367	691	852	3,926	5,470	15,837
Per person	Lb.	5.7	10.6	5.2	16.6	14.0	2.3	51.1	3.4	4.2	19.5	27.0	78.1
1969-70 5/													
Oct.-Dec:													
Total	Mil.lb.	306	592	253	943	732	126	2,773	103	152	1,101	1,356	4,128
Per person	Lb.	1.5	2.9	1.2	4.6	3.6	.6	13.6	.5	.7	5.4	6.6	20.3
Jan.-Mar:													
Total	Mil.lb.	298	583	235	923	774	124	2,766	184	150	878	1,212	3,978
Per person	Lb.	1.5	2.8	1.1	4.5	3.8	.6	13.5	.9	.7	4.3	5.9	19.4
Apr.-June:													
Total	Mil.lb.												
Per person	Lb.												
July-Sept:													
Total	Mil.lb.												
Per person	Lb.												
Season:													
Total	Mil.lb.												
Per person	Lb.												

1/ Includes all food fats and oils used other than butter, lard, margarine, shortening and cooking and salad oils.

2/ Fat equivalent of soap used in synthetic rubber is included in "other industrial products". Adjusted for foreign trade and changes in stocks.

3/ Paints, varnishes, floor coverings, oilcloth, printing inks, core oils, synthetic resins, insulation, linings, packings, coated fabrics, caulking and other protective coatings.

4/ Includes use of fats and oils in chemicals, lubricants and greases, animal feeds, fatty acids, tin and terne plate, pharmaceuticals, leather, candles, synthetic organic detergents, toilet articles, and miscellaneous industrial products.

5/ Preliminary.

Table 29.--Fats and oils (including their products) and oilmeals: Production from domestic and imported materials, and factory and warehouse stocks at end of month

Item	Production						Stocks			
	October-April		1969	1970			1969	1970		
	1968-69	1969-70	Apr.	Feb.	Mar.	Apr.	Apr. 30	Feb. 28	Mar. 31	Apr. 30
	Million pounds									
PRIMARY FATS AND OILS										
Food fats and oils										
Butter (creamery)	666.7	651.2	109.6	93.8	106.5	111.2	134.5	81.3	91.6	114.3
Lard (commercial)	1,191.0	1,076.7	164.0	129.6	148.9	161.4	93.2	61.6	67.1	72.6
Beef fats	313.1	345.7	41.8	48.9	48.7	48.3	47.4	49.0	43.8	40.0
Total edible animal fats	2,170.8	2,073.6	315.4	272.3	304.1	320.9	275.1	191.9	202.5	226.9
Corn oil	272.3	278.6	40.0	38.6	43.9	42.1	65.9	57.3	59.9	68.7
Cottonseed oil	1,118.9	1,034.3	127.3	151.3	140.2	102.8	460.8	394.0	351.3	325.2
Palm oil	---	---	---	---	---	---	40.1	29.4	23.7	23.0
Peanut oil	133.5	126.5	19.6	20.0	23.5	22.6	39.1	18.6	19.7	26.0
Soybean oil	3,822.4	4,615.8	537.6	626.5	671.3	672.3	595.5	558.6	560.7	633.6
Safflower oil	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	74.9	49.2	45.7	45.0
Total edible vegetable oils	5,347.1	6,055.2	724.5	836.4	878.9	839.8	1,276.3	1,107.1	1,061.0	1,121.5
Soap fats and oils										
Tallow, inedible, and greases	2,724.6	2,816.9	386.2	378.4	392.0	401.1	335.9	429.9	370.0	368.2
Fish and marine oil 1/	47.7	32.4	6.1	.5	.7	3.1	94.2	79.7	66.1	74.0
Coconut oil	223.7	196.6	30.5	26.2	14.2	19.1	155.6	139.5	138.3	121.9
Total soap fats	2,996.0	3,045.9	422.8	405.1	406.9	423.3	585.7	649.1	574.4	564.1
Drying oils										
Castor oil 1/	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	112.3	119.5	123.9	117.3
Linseed oil	192.7	173.1	20.8	24.2	21.4	27.1	156.7	132.6	130.4	134.2
Tall oil	767.7	742.6	115.4	101.9	117.7	116.6	229.2	157.6	171.2	176.3
Tung oil	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	62.5	54.0	49.2	53.1
Total drying oils	960.4	915.7	136.2	126.1	139.1	143.7	560.7	463.7	474.7	480.9
Grand total	11,474.4	12,090.4	1,599.1	1,639.9	1,729.0	1,727.8	2,697.8	2,411.8	2,312.6	2,393.4
From domestic materials	11,250.7	11,893.8	1,568.6	1,613.8	1,714.8	1,708.6				
From imported materials	223.7	196.6	30.5	26.2	14.2	19.1				
FAT-AND-OIL PRODUCTS										
Cooking and salad oils										
Total	1,691.6	1,937.2	258.4	263.6	293.9	293.4	73.9	77.3	68.8	84.0
Soybean	1,172.7	1,363.6	181.7	181.7	207.4	209.5	46.6	58.8	50.0	64.4
Other	518.9	573.7	76.7	81.9	86.4	83.8	27.3	18.4	18.8	19.6
Baking and frying fats (shortening)										
Total	2,007.6	2,187.5	268.7	302.2	314.5	303.2	142.1	113.8	114.7	142.0
100% vegetable oil	1,299.3	1,525.1	176.9	201.0	221.4	211.7	97.2	81.4	79.2	107.5
100% animal fats or blends of vegetable oil and animal fats	708.3	662.4	91.8	101.3	93.1	91.5	44.9	32.4	35.4	34.4
Margarine										
Total	1,316.4	1,356.4	169.3	198.4	190.3	169.2	58.7	60.6	57.7	62.8
Soft	188.6	244.0	27.2	38.7	35.9	30.8	---	---	---	---
1 pound units	1,165.4	1,207.3	151.9	178.0	169.5	149.0	---	---	---	---
All other	151.0	149.2	17.4	20.4	20.8	20.3	---	---	---	---
Fatty Acids	670.8	652.5	102.8	91.3	99.2	100.1	127.7	128.2	128.0	142.4
Glycerine (Natural and synthetic)	212.5	208.3	32.8	28.3	28.9	29.5	57.7	60.7	55.1	53.3
Meat Meal and Tankage	2,374.3	2,346.1	337.4	309.7	308.5	337.4	---	---	---	---
OILSEED CAKE AND MEAL	Thousand tons									
Soybean (including hull meal)	8,557.8	10,249.3	1,197.6	1,388.9	1,489.4	1,481.1	181.3	154.3	149.8	156.9
Cottonseed	1,565.7	1,479.2	174.9	213.4	197.7	144.2	192.5	108.6	146.0	148.4
Linseed	168.8	153.1	18.0	20.6	18.2	23.5	14.8	2.0	4.2	6.4
Peanut	90.2	85.0	13.1	13.2	15.7	14.8	5.6	3.2	4.2	5.8
Copra	65.4	57.5	8.7	7.8	4.3	5.5	1.7	N.A.	N.A.	N.A.
Other	36.3	51.3	7.1	10.2	10.7	10.4	16.8	19.7	26.0	26.2
Total oilmeals	10,484.2	12,075.4	1,419.4	1,654.1	1,736.0	1,679.5	412.7	287.8	330.2	343.7

1/ Stocks include GSA stockpile.

N.A. Not available.

Table 30.--Imports and exports of fats, oils, oil-bearing materials, fat-and-oil products (in terms of oil) and oilmeals

Item	Imports for consumption					Exports 1/				
	Oct.-Apr.		1970			Oct.-Apr.		1970		
	1968-69	1969-70	Feb.	Mar.	Apr.	1968-69	1969-70	Feb.	Mar.	Apr.
	Million pounds									
Food fats and oils										
Butter	1.9	1.9	2/	.1	.1	10.7	1.7	.1	2/	---
Lard	---	---	---	---	---	111.4	197.6	38.1	37.3	12.9
Beef fats	2/	.3	2/	2/	---	7.1	10.3	1.5	2.6	2.7
Total, edible animal fats	1.9	2.2	2/	.1	.1	129.2	209.6	39.7	39.9	15.6
Corn oil	7.1	.5	---	---	---	4.4	5.0	.8	.9	1.2
Cottonseed oil	2/	.1	---	---	---	86.7	333.0	52.4	56.2	24.0
Cottonseed (17 percent)	---	---	---	---	---	.7	4.0	.6	1.0	.3
Olive oil, edible	32.3	36.2	4.1	6.4	6.6	---	---	---	---	---
Palm oil	98.1	73.3	12.1	2.9	8.4	---	---	---	---	---
Peanut oil	2/	2/	---	---	2/	7.8	24.8	4.0	13.8	.3
Peanuts, shelled (43.5 percent)	---	---	---	---	---	5.5	8.9	1.3	1.7	2.6
Soybean oil	2/	---	---	---	---	480.0	655.5	57.6	163.9	81.9
Soybeans (18.3 percent)	2/	2/	---	---	2/	2,251.3	3,154.0	347.6	431.1	452.8
Safflower seed (36 percent)	---	---	---	---	---	27.6	22.7	.5	.7	.7
Other vegetable oils	10.4	12.8	2.8	1.8	2.5	3.5	5.0	.5	.6	.8
Total, edible vegetable oils	147.9	122.9	19.0	11.1	17.5	2,867.5	4,212.9	465.3	669.9	564.6
Soap fats and oils										
Tallow, inedible	2.6	4.5	.5	.5	.7	1,116.5	1,028.7	114.6	219.2	155.8
Greases	2/	2/	2/	2/	---	80.2	114.7	19.1	16.0	26.7
Fish and fish liver oils non-medicinal	.4	.2	.1	2/	.1	94.5	98.8	1.2	14.3	4.6
Marine mammal oils	36.4	27.2	---	2.4	3.4	---	---	---	---	---
Olive oil, inedible	.1	.2	2/	2/	.1	---	---	---	---	---
Total, slow-lathering oils	39.5	32.1	.6	2.9	4.3	1,291.2	1,242.2	134.9	249.5	187.1
Babassu oil	1.3	5.4	---	---	3.2	---	---	---	---	---
Coconut oil	288.6	301.8	49.4	30.3	17.5	3.3	3.0	.3	1.1	.5
Copra (64 percent)	253.6	188.2	12.3	23.3	7.4	---	---	---	---	---
Palm kernel oil	63.4	50.3	5.4	6.4	9.0	---	---	---	---	---
Total, lauric-acid oils	606.9	545.7	67.1	60.0	37.1	3.3	3.0	.3	1.1	.5
Drying oils										
Flaxseed (36.1 percent)	---	2/	2/	---	---	89.6	90.5	2/	.1	2/
Linseed oil	2/	2/	---	2/	2/	37.4	26.5	.2	3.1	.2
Oiticica oil	4.9	3.4	---	.9	.6	---	---	---	---	---
Tall oil	---	---	---	---	---	54.0	97.0	20.1	10.9	13.4
Tung oil	11.9	14.1	4.2	.7	1.7	.9	1.4	.1	.2	.1
Total	16.8	17.5	4.2	1.6	2.3	181.9	215.4	20.4	14.3	13.7
Other industrial oils and fats										
Castor oil	72.7	87.0	13.5	14.2	11.8	---	---	---	---	---
Fish-liver oils, medicinal	5.4	5.2	1.0	1.0	.3	---	---	---	---	---
Rapeseed oil	7.0	2.9	---	2/	2/	---	---	---	---	---
Wool grease	2.0	4.1	.8	.7	.6	---	---	---	---	---
Other vegetable oils and fats, inedible	7.2	7.2	.8	1.7	.9	45.7	46.6	7.1	7.7	9.0
Total	94.3	106.4	16.1	17.6	13.6	45.7	46.6	7.1	7.7	9.0
Products										
Margarine (fat content)	---	---	---	---	---	2.0	1.5	.3	.1	.2
Shortening	---	---	---	---	---	17.0	17.8	3.5	1.8	2.7
Salad products (fat content)	---	---	---	---	---	4.4	4.9	.8	.9	.8
Soap (fat content)	.9	1.6	.1	.2	.3	7.0	6.6	1.0	1.0	1.0
Fatty acids	8.4	5.3	.5	.9	.7	39.8	66.9	15.2	9.4	9.5
Total	9.3	6.9	.6	1.1	1.0	70.2	97.7	20.8	13.2	14.2
Grand total	916.7	833.7	107.6	94.3	75.9	4,589.0	6,027.2	688.3	995.8	804.6
Glycerine	.7	.3	2/	2/	2/	21.6	44.4	5.8	9.3	8.8
Oilseed Cake and Meal:	Thousand tons									
Soybean	---	---	---	---	---	1,779.2	2,427.2	287.0	310.5	385.9
Cottonseed	22.2	1.1	---	---	---	2.0	5.3	.4	1.2	1.2
Linseed	.9	1.3	.2	.1	.1	32.6	47.2	1.2	---	---
Copra	---	---	---	---	---	---	---	---	---	---
Corn	---	---	---	---	---	1.9	2.5	.1	.5	2/
Other	2.7	3.6	3.2	2/	---	38.9	23.8	3.8	4.9	2.7
Total oilmeals	25.8	6.0	3.4	.1	.1	1,854.6	2,506.0	292.5	317.1	389.8

1/ Includes re-exports and foreign donations but not shipments to U.S. Territories. 2/ Less than 50,000 pounds.

Table 31.--Index numbers of wholesale prices of fats and oils

Item	1957-59=100				
	April		1970		
	1968	1969	February	March	April
All fats and oils	93	94	106	113	115
All fats and oils, except butter	81	82	98	109	110
Grouped by origin:					
Animal fats	92	103	111	118	119
Vegetable oils, domestic	88	81	98	110	113
Vegetable oils, foreign	144	94	125	127	130
Grouped by use:					
Butter	113	115	115	115	118
Butter, seasonally adjusted	117	119	112	112	123
Lard	62	82	111	129	112
Lard, refined	95	108	132	146	132
Food fats other than butter	80	81	101	115	113
Food fats other than butter and lard	86	81	99	111	114
All edible fats and oils	97	98	110	117	118
Soap fats	79	83	93	100	106
Drying oils	90	80	89	94	95
Other industrial	96	82	95	102	106
All industrial	82	84	95	102	107
Edible vegetable oils, grouped by degree of processing:					
Crude	89	81	100	111	115
Refined	93	89	100	112	108
End products	100	103	108	112	114
Margarine	100	101	107	110	114
Shortening, 3 lb. tin	94	94	102	106	106
Shortening, 400 lb. drum	106	112	110	120	115

All indexes except "Butter, seasonally adjusted" and "Other industrial" from Bureau of Labor Statistics.

Table 32.--Prices received by farmers and prices at terminal markets for specified oil-bearing materials and oilmeals

Item	Unit	May		1970		
		1968	1969	March	April	May
		Dollars	Dollars	Dollars	Dollars	Dollars
OILSEEDS						
Copra, Philippines, c.i.f. Pacific Coast	Short ton	248.00	165.40	---	---	---
Cottonseed, United States average	Short ton	---	---	47.10	---	---
Flaxseed, No. 1, Minneapolis	Bushel	3.19	3.15	2.92	2.97	2.97
Flaxseed, United States average	Bushel	2.94	2.79	2.64	2.66	2.50
Peanuts, United States average (farmers' stock)	100 lb.	---	---	12.20	---	---
Peanuts, Virginias' No. 1, shelled, Va.-N.C. 1/	100 lb.	22.12	22.38	21.62	21.62	21.62
Peanuts, Runners No. 1, shelled, Southeast 1/	100 lb.	21.88	22.00	22.25	22.38	22.68
Peanuts, Spanish No. 1, shelled, Southeast 1/	100 lb.	23.38	22.00	22.12	22.25	22.25
Peanuts, Spanish No. 1, shelled, Southwest 1/	100 lb.	---	22.00	22.25	22.75	22.88
Soybeans, No. 1, Yellow, Chicago	Bushel	2.74	2.72	2.58	2.64	2.70
Soybeans, No. 1, Yellow, Illinois country shipping points	Bushel	2.65	2.64	2.47	2.58	2.65
Soybeans, United States average	Bushel	2.58	2.56	2.42	2.48	2.52
OILMEALS (bulk)						
Copra meal, 20 percent protein, Los Angeles	Short ton	84.70	73.20	78.40	80.00	---
Cottonseed meal, 41 percent protein, Memphis	Short ton	77.60	59.10	64.40	64.90	65.20
Cottonseed meal, 41 percent protein, Chicago	Short ton	86.20	68.70	74.90	74.60	74.75
Cottonseed meal, 41 percent protein, Atlanta	Short ton	80.10	62.80	68.40	70.90	70.75
Cottonseed meal, 41 percent protein, Ft. Worth	Short ton	75.00	60.80	72.00	74.25	76.20
Fish meal, 60 percent protein, bagged, New York	Short ton	131.40	161.00	196.00	202.50	199.40
Fish meal, 60 percent protein, bagged, Los Angeles	Short ton	120.20	139.50	178.50	179.25	181.50
Linseed meal, 34 percent protein, Minneapolis	Short ton	78.50	70.40	73.50	67.50	65.75
Linseed meal, 34 percent protein, New York	Short ton	96.20	89.60	93.40	89.25	87.80
Peanut meal, 50 percent protein, f.o.b. Southeastern mills	Short ton	75.70	76.10	76.60	75.50	71.75
Safflower meal, 20 percent solvent, San Francisco	Short ton	29.00	37.00	40.00	40.00	40.00
Soybean meal, 44 percent protein, Chicago	Short ton	79.60	80.60	76.80	79.60	76.20
Soybean meal, 44 percent protein, Decatur	Short ton	75.00	76.10	71.80	74.60	71.20
Soybean meal, 44 percent protein, Atlanta	Short ton	82.60	84.80	80.20	81.60	77.60
Soybean meal, 44 percent protein, Memphis	Short ton	76.00	77.40	74.30	75.60	71.60
Soybean meal, 50 percent protein, Decatur 2/	Short ton	81.90	84.90	79.60	83.10	78.90
Soybean meal, 50 percent protein, Memphis 2/	Short ton	83.70	87.00	84.60	87.10	83.90
Soybean meal, 50 percent protein, Atlanta 2/	Short ton	90.20	92.90	89.20	92.00	88.70

1/ This price applies to peanuts for edible uses. 2/ Beginning February 1968, quoted as 49-50 percent protein.

Compiled from Oil, Paint, and Drug Reporter, Wall Street Journal, Chicago edition, reports of the Statistical Reporting Services, and the Consumer Marketing Service.

Table 33.--Wholesale and retail prices per pound for fats and oils

Item	May		1970		
	1968	1969	March	April	May
	Cents	Cents	Cents	Cents	Cents
Wholesale Prices:					
Butter, creamery, Grade A, (92-score) bulk, New York	67.5	68.6	68.9	70.8	70.8
Butter, creamery, Grade A, (92-score) bulk, Chicago	66.4	67.6	68.0	69.8	69.8
Butter, creamery, Grade A, (92-score) prints, San Francisco	79.8	81.5	82.3	84.8	85.3
Castor oil, dehydrated, tanks, New York	31.0	28.0	28.0	28.0	28.0
Castor oil, No. 1, Brazilian, tanks, imported, New York	18.2	14.7	14.3	13.8	14.3
Castor oil, No. 1, tanks, f.o.b., New Jersey mills	---	---	---	---	---
Coconut oil, crude, tank cars, Pacific Coast, 1/	21.8	12.6	16.4	16.7	16.4
Coconut oil, crude, tanks, f.o.b. New York	22.6	12.4	17.1	17.7	17.4
Coconut oil, refined, tanks, l.c.l., New York	23.4	15.2	18.5	19.2	18.8
Cod oil, spot, drums, New York	8.1	8.0	8.0	8.0	8.2
Codliver oil, medicinal, U. S. P., barrels, New York	19.5	19.5	20.6	20.8	20.8
Corn oil, crude, tank cars, f.o.b. Midwest mills	14.4	12.7	15.5	14.8	15.3
Corn oil, crude, tanks, New York	14.3	12.6	15.3	15.1	15.0
Corn oil, refined, tanks, New York	17.7	15.9	18.9	18.5	18.9
Cottonseed oil, crude, tank cars, f.o.b., S. E. mills	14.7	11.5	13.2	14.1	14.3
Cottonseed oil, crude, tank cars, f.o.b., Valley	14.3	11.4	13.1	14.0	14.3
Cottonseed oil, crude, tank cars, f.o.b., Texas	14.2	11.2	12.8	13.8	14.1
Cottonseed oil, p.s.y., bleachable, tank cars, New York 2/	15.5	12.6	---	---	---
Cottonseed oil, refined, tanks, New York	17.5	14.6	17.0	17.9	18.3
Degras, Lanolin technical, drums, New York	22.0	22.0	22.0	22.0	22.0
Glycerine, soaplye, tanks, New York 3/	16.2	---	---	---	---
Grease, A white, tank cars, delivered Chicago	5.0	6.3	8.0	8.4	8.4
Grease, B white, delivered, Chicago	4.6	5.8	7.2	7.8	8.1
Grease, yellow, delivered, Chicago	4.5	5.6	6.9	7.3	7.3
Grease, white, choice, tanks, New York	5.0	5.0	7.3	8.2	8.6
Grease oil, extra No. 1, drums, Chicago	13.5	13.4	13.4	13.4	13.4
Lard, loose, tank cars, Chicago	5.9	8.4	13.6	11.8	11.6
Lard, prime steam, tierces, Chicago	5.8	8.5	13.6	12.2	11.1
Lard, refined, one and two pound prints, Chicago	12.0	14.0	19.4	17.5	17.0
Lard, refined, carlots, 50-lb. tins, Chicago	8.4	11.0	16.1	14.7	13.6
Linseed oil, raw, tank cars, Minneapolis	13.2	11.9	11.0	11.0	12.2
Linseed oil, raw, tanks, New York	14.3	13.0	12.2	12.2	12.2
Margarine, colored, delivered, Eastern U.S.	25.6	25.7	28.2	29.0	29.0
Margarine, yellow, quarters, f.o.b., Chicago	26.0	16.0	27.0	25.8	20.8
Margarine, white, domestic vegetable, Chicago	23.0	14.5	21.8	21.3	19.5
Menhaden oil, crude, tanks, f.o.b., Baltimore	4.5	4.5	4.5	4.5	N.A.
Menhaden oil, light pressed, tanks, New York	9.5	9.5	9.8	10.5	10.5
Neat's foot oil, 30°, drums, carlots, New York	---	---	---	---	---
Oiticica oil, drums, f.o.b., New York	13.8	13.1	19.1	18.8	18.5
Oiticica oil, tanks, New York	11.0	11.1	17.1	16.8	16.5
Oleo oil, extra, drums, Chicago	---	---	---	---	---
Olive oil, imported, edible, drums, New York	38.7	38.7	40.3	40.7	40.7
Palm oil, clarified, drums, f.o.b., New York	14.5	12.5	15.1	16.0	17.2
Palm oil, Congo, tank cars, f.o.b., New York	12.0	11.2	12.6	13.2	14.0
Palm kernel oil, bulk, c.i.f., New York	---	---	---	---	---
Peanut oil, crude, tank cars, f.o.b. S. E. mills	13.8	13.6	15.1	15.5	16.1
Peanut oil, refined, tanks, New York	16.6	16.2	18.0	18.5	18.9
Rapeseed oil, refined (denatured), tanks, New York	15.2	13.8	16.2	17.0	17.0
Safflower oil, tanks, New York	14.2	15.6	16.3	16.5	16.5
Safflower oil, edible, tanks, New York	14.8	4/22.8	26.0	27.0	27.0
Sesame oil, refined, drums, New York	35.2	35.0	38.0	39.0	39.0
Shortening, all vegetable, hydrogenated, 440-lb. drums, New York	21.0	22.2	23.8	22.8	22.2
Shortening, all vegetable, hydrogenated, 3 lb. tins, delivered, Eastern U.S.	25.6	25.8	28.9	28.9	29.1
Soybean oil, crude, tank cars, f.o.b., Decatur	8.7	8.4	12.2	12.2	11.3
Soybean oil, refined, tanks, New York	10.8	10.4	14.0	13.9	13.3
Soybean oil, clarified, tanks, New York	11.2	10.3	14.3	14.4	13.3
Sperm oil, natural 45°, drums, New York	14.5	14.5	18.0	19.0	20.2
Sperm oil, bleached, winter 45°, drums, New York	17.5	17.5	19.0	20.0	21.2
Tall oil, crude, tanks, works	3.4	3.4	3.4	3.4	3.5
Tall oil, refined, tanks, works	7.5	7.5	7.5	7.8	8.5
Tallow, edible, loose, Chicago	5.8	8.5	11.5	10.9	10.8
Tallow, inedible, packers' prime, c.a.f. delivered, Chicago	4.8	6.0	7.4	8.1	8.3
Tallow, inedible, bleachable fancy, delivered, Chicago	5.1	6.4	7.7	8.4	8.6
Tallow, No. 1, inedible, delivered, Chicago	4.5	5.6	6.9	7.6	7.9
Tallow, special, inedible, tanks, delivered, New York	4.5	5.0	6.9	7.4	7.8
Tung oil, imported, drums, f.o.b., New York	15.8	14.8	25.4	26.0	26.0
Tung oil, tanks, New York	12.5	12.5	24.2	24.4	23.6
Tung oil, domestic, tanks, f.o.b. mills	5/24.0	5/24.0	5/24.0	5/24.0	5/24.0
Retail prices 6/					
Butter	83.6	84.4	85.5	86.0	86.6
Margarine	28.0	27.8	28.5	29.2	29.9
Shortening	28.0	27.9	28.7	29.2	29.4
Salad Dressing (Italian)	75.8	76.0	75.0	75.2	75.8
Peanut Butter	58.5	60.8	62.5	62.7	63.1
Cooking and Salad oils	35.3	34.6	36.1	36.7	37.7

1/ Includes 1 cent import duty.

2/ Nearby futures.

3/ Average of weekly prices, New York Journal of Commerce.

4/ Beginning August 1968, reported as drums.

5/ Nominal.

6/ Leading cities.

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